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Comparing Two Models of Employee Engagement: An Examination of Antecedents and
Outcome Variables

By

Neli Remo

A Dissertation
Submitted to the Faculty of Graduate Studies
through Psychology
in Partial Fulfillment of the Requirements for
the Degree of Doctor of Philosophy at the
University of Windsor
Windsor, Ontario, Canada
2012

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Comparing Two Models of Employee Engagement: An Examination of Antecedents and Outcome Variables

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July 13, 2012

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ABSTRACT

Employee engagement has been a popular concept among business practitioners, while in the academic literature, the concept remains relatively new. In order to compete effectively, companies must inspire employees to apply their full capabilities to their jobs and perform at a top level. Employees who are energetic and dedicated to their work can make a true difference for companies that want to create a highly efficient and productive organization (Bakker & Leiter, 2010). Given that practical interest in work engagement has surpassed the available research evidence, questions such as what impacts employee engagement and how it benefits individuals and organizations, still require answers.

This study set out to test competing models of employee engagement in order to provide a deeper understanding of the antecedents and outcomes influencing this concept. Specifically, this study provided theory-based empirical evidence regarding the impact job characteristics organizational culture have on work engagement (Schaufeli et al., 2002) and vigor (Shirom, 2003). This study also investigated how work engagement and vigor impact presenteeism and turnover intentions.

Data were collected from 273 accountant professionals in Canada, and confirmatory factor analyses and structural equation modeling were used to test the premises of this study. When testing the hypothesized models, work engagement was better grounded in theory than vigor. Further examination of the results also showed that job characteristics had a large impact on work engagement and vigor, and these variables were found to have a negative relationship with presenteeism.

This study's findings have significant practical and theoretical implication. First, this study supported the factor structure and model fit of the three-factor work engagement. This

study also provides a clearer picture of how work engagement and vigor are associated with their antecedents and outcomes. This study's findings also identify the rising influence of professional groups in how antecedents impact work engagement and vigor, and to what degree. Overall, this study points to new directions in the employee engagement research, and succeeds in supporting the premise that employee engagement is a concept in its own right.

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CHAPTER I

Introduction

Given the new economic state of affairs following the 2007 economic crisis, companies are striving towards finding fresh and innovative ways to maintain a competitive advantage in their respective marketplaces. Insight into employees' psychological connection with their work can provide such an advantage in the resulting reality of the 21st century. In order to compete effectively, companies must inspire employees to apply their full capabilities to their jobs and perform at a top level. Therefore, organizations must seek to develop a proactive, responsible and committed workforce. Employees who are energetic and dedicated to their work can make a true difference for companies that want to create a highly efficient and productive organization (Bakker & Leiter, 2010).

The concept of engagement in the workplace has received substantial attention from various practitioners (Macey & Schneider, 2008). Academicians, having witnessed this increasing interest in the industry sector, began researching this concept in the 1990's in order to generate a clearly defined concept of employee engagement and a measurement tool to assess it (Khan, 1990; Maslach & Leiter, 1997; Schaufeli, Salanova, & Gonzalez-Roma, 2002). The concept of engagement has been validated and studied for the past 20 years, resulting in the identification of numerous antecedents, outcome variables, and a theoretical framework: Job Demands-Resources (JD-R) model. Most of the studies to date have concentrated on how various job aspects affected employee engagement (Shirom, 2003; Maslach & Leiter, 1997; Schaufeli & Salanova, 2007; Bakker & Demerouti, 2007, 2008; Schaufeli & Bakker, 2004). A few studies have alluded to the fact that in addition to job factors, the work environment may also play a significant role in the development of work engagement (Hakanen, Bakker & Schaufeli, 2006;

Hakanen & Lindbohm, 2008; Hakanen & Roodt, 2010; Alarcon, Lyons, & Tartaglia, 2010).

Schaufeli and Salanova (2007) showed that job resources such as social support from colleagues and supervisors, autonomy, and learning opportunities are positively associated with work engagement. These types of resources are often embedded in the organization's culture (i.e. the set of rules that govern what one is expected to know, think, and feel while at work; Schaufeli & Salanova, 2007). For example, previous research has shown that a workplace that has a rule (whether informal or formal) which encourages supportive relationships with colleagues and supervisors at work would most likely foster a supportive culture in the office (Hakanen & Roodt, 2010).

The past 20 years of research yielded multiple conceptualizations and operationalizations of employee engagement, subjecting the concept to confusion and misinterpretation. From its inception, the concept of employee engagement in the workplace has been criticized to be “old wine in a new bottle” (Wefald, 2010). Employee engagement scholars continue to call for studies that compare the various conceptualizations of employee engagement to clarify it and unify it across both academic and industry realms (Hallberg & Schaufeli, 2006). This study has an overarching purpose: to compare two models of employee engagement. This study is mostly theoretical in nature and was intended to confirm previous studies' findings examining what influences employee engagement and how employee engagement influences significant behaviours in the workplace. This has important implications to the industry practice that have been attempting to implement interventions to increase employee engagement.

The next few sections will provide an in-depth review of all variables included in this analysis: work engagement, vigor, job characteristics, organizational culture, turnover, and presenteeism. Following this review, the purpose of this study and hypotheses will be presented.

The final section will propose a methodology for this study that will include a description of the measurement tools, procedure, participants, and analysis.

Overview of Employee Engagement

Recent efforts to improve employees' performance have begun to concentrate on positive organizational behaviour concepts and positive emotions (Seligman & Csikszentmihalyi, 2000). In fact, engagement in the workplace is a concept that emerged in part as a response to the call made by positive psychologists to address the positive aspects of psychology (Seligman & Csikszentmihalyi, 2000). The field of psychology has been criticized as primarily devoted to studying negative states instead of positive ones, especially since the ratio of publications examining negative states vs. positive states had been found to be 14:1 (Myers, 2000). Rather than concentrating on weaknesses and malfunctions, positive psychologists began to instead focus on studying human strengths and optimal functioning. The positive psychology movement has re-oriented workplace variables and job attitudes to reflect a more positive perspective that can enhance and enrich lives, and act as a preventative measure against negative outcomes.

Employee engagement is a relatively new concept that is being studied and utilized by two sectors: the academic sector and the industry sector. There is a clear delineation between the academic and the industry view of engagement (Wefald & Downey, 2009). Academic researchers have concentrated mainly on clarifying the psychological construct and its measurement. The industry stream is primarily focused on the outcomes of a psychological state: performance, retention, and commitment. The industry stream had readily adopted the concept of workplace engagement even though little evidence existed to support it. In fact, the industry stream is, in part, the moving force behind the revival of the employee engagement concept in the academic realm (Macey & Schneider, 2008). In large part, the conceptual vagueness and

measurement issues can be attributed to this “bottom-up” manner in which the engagement construct evolved. Since the industrial approach to studying engagement in the workplace has been driven by the bottom line, organizational profitability, many human resource consultants and practitioners nowadays offer advice on how engagement can be promoted and leveraged (Macey & Schneider, 2008). Most of this advice draws on sparse theoretical and empirical research and can be attributed to folk theory. Many of the assessment tools used to measure engagement in the workplace in fact measure other workplace related constructs such as job satisfaction, job involvement, organizational citizenship behaviour, and organizational commitment (Macey & Schneider, 2008).

Khan (1990) was the first to introduce the concept of personal engagement at work to the academic realm. He suggested that people can use varying degrees of their selves, physically, emotionally and cognitively in the work roles they perform. Unlike concepts such as job involvement (Lawler & Hall, 1970; Lodahl & Kejner, 1965), organizational commitment (Mowday, Porter & Steers, 1982) and self-estrangement (Blauner, 1964; Seeman, 1972), Khan wanted to examine the essence of what it means to be psychologically present in particular moments and situations.

Khan’s concept of personal engagement emerged from a qualitative study (Khan, 1990) and a quantitative study (Khan, 1992) as a three factor model. According to this model, people vary in their degree of personal engagement depending on the psychological meaningfulness, psychological safety, and psychological availability of their job. Later, May, Gilson, and Harter (2004) built on Kahn’s (1990) ethnographic study by introducing a new measure of personal engagement in a field study of 213 employees from an insurance company. May et al. (2004) are the only researchers that took Khan’s (1990; 1992) three factor concept of engagement and

supported it with additional research. Research conducted onwards has drawn on Khan's theoretical work (1990; 1992), but did not further develop his model of personal engagement.

After Khan (1990; 1992) introduced the concept of employee engagement, for the next seven years, there were no significant research initiatives to study employee engagement – that is until burnout researchers decided to re-introduce it (Maslach & Leiter, 1997). Of the numerous attempts to study employee engagement through rigorous testing, at least four main approaches emerged in the academic circles: Maslach and Leiter's (1997) "job engagement," Schaufeli and colleagues (2002; 2006; 2007) "work engagement," Shirom's (2003) "vigor," and Britt's (1999) "self engagement." Since Britt's self engagement consists of a broader concept of engagement that refers to other areas of life beyond the workplace, this conceptualization was not reviewed in the present study. The work engagement (Schaufeli et al., 2002) and vigor (Shirom, 2003) conceptualizations of employee engagement formed the basis for this study's model comparisons.

Maslach and Leiter's (1997) Job Engagement

It is interesting and maybe somewhat ironic to note that it was research on burnout that revived interest in the academic stream to study employee engagement (Bakker, Schaufeli, Leiter, & Taris, 2008). Research on burnout began in the 1970s with an attempt to address the negative aspects of the relationship that people have with their work (Maslach, Schaufeli, & Leiter, 2001). Burnout refers to "a prolonged response to chronic emotional and interpersonal stressors on the job, and is defined by the three dimensions of exhaustion, cynicism, and inefficacy" (Maslach & Jackson, 1981, p.102). Adopting the positive psychology view, Maslach and Leiter (1997) expanded their initial burnout concept to include a positive antithesis: job engagement. They defined engagement as "an energetic state of involvement with personally

fulfilling activities that enhance one's sense of professional efficacy" (Leiter & Maslach, 1998, p. 203). Burnout was redefined to represent the erosion of employee engagement. The three dimensions of burnout - exhaustion, cynicism, and lack of personal efficacy - were measured with the opposite scores, and the new dimensions of energy (vigor), involvement, and efficacy emerged to represent engagement.

Maslach and Leiter (2008) examined the predictors of burnout and engagement with a sample of university business and administrative staff. This was a longitudinal study design that provided some insight into how burnout changes over time. Their findings showed that people who are more prone to burnout can be identified in advance by the experience of person-job incongruence (Maslach and Leiter, 2008). Maslach et al. (2001) suggested that based on their framework, employee engagement is conceptually different from other similar concepts such as organizational commitment, job satisfaction, and job involvement.

Schaufeli and colleagues' (2002) Work Engagement

While attempting to validate Maslach and Leiter's (1997) model of engagement as the opposite of burnout, Schaufeli et al. (2002) discovered that engagement may actually be an independent concept that is related negatively to burnout, but is not the opposite of burnout. In their study, the correlation between emotional exhaustion and vigor, two dimensions suggested to be opposites, was found to be weak and negative. This finding implied that these two dimensions are not opposites of the same continuum. To validate the premise that emotional exhaustion and vigor are opposites, a stronger negative correlation should have been found (Schaufeli et al. 2002). The researchers concluded that instead of representing opposite constructs, work engagement is actually obliquely related to burnout.

Based on this work, Schaufeli et al. (2002) proposed a new definition of work engagement: “a positive, fulfilling, work-related state of mind that is characterized by *vigor*, *dedication*, and *absorption*” (p. 74). Work engagement “is not a momentary and specific state, but a more constant, pervasive, affective-cognitive state that is not focused on any particular object, event, individual, or behavior” (Schaufeli et al., 2002). *Vigor* is characterized by high levels of energy and mental resilience, the willingness to invest effort in one’s work, and persistence when faced with difficulties at work. *Dedication* is characterized by being highly involved in one’s work, and experiencing a sense of significance, inspiration, pride, enthusiasm, and challenge at work. *Absorption* refers to high levels of concentration, being happily engrossed in one’s work, and feeling that time passes quickly. Often, absorbed employees have difficulty detaching themselves from work (Schaufeli et al., 2002).

Initially, only two dimensions emerged (Schaufeli & Bakker, 2001): vigor and dedication, which represent the opposite of exhaustion and cynicism in the burnout concept. The label provided to the vigor–exhaustion continuum was “energy,” while the label given to the cynicism–dedication continuum was “identification” (Gonzalez-Roma, Schaufeli, Bakker, & Lloret, 2006). The dimension of absorption emerged from in-depth interviews performed to clarify initial results and was later included as the third dimension of work engagement (Schaufeli, Taris, Le Blanc, Peeters, Bakker, & De Jonge, 2001, as cited in Schaufeli et al., 2002).

Work Engagement Theoretical Framework. Theoretically, work engagement draws on occupational stress models. Antecedents and outcomes of work engagement have been mainly studied through the lens of the Job Demands Resources model (JD-R; Schaufeli & Bakker, 2004; Koyuncu, Burke, & Fiksenbaum, 2006; Parker, Jimmieson & Amiot, 2009; Meyer & Gagne,

2008; Allen & Mellor, 2002; Van Heck & De Vries, 2002; Kim, Shin, & Swanger, 2009; Llorens et al., 2007; Langelaan et al., 2006; Mauno, Kinnunen, & Ruokolainen, 2007; Hakanen, Schaufeli, & Ahola, 2008). This model is consistent with earlier theories such as the Job Characteristics Theory (JCT; Hackman & Oldham, 1975; 1980), Conservation of Resources (COR; Hobfoll, 1989), Demands-Control Model (DCM; Karasek, 1979, 1998), and Effort-Reward Imbalance Model (ERI; Siegrist, 1996), among others.

Hackman and Oldham's classic treatise, "Work Redesign," (1980) appeared at a time when American companies were coming to terms with rampant job dissatisfaction and the realization that the traditional Industrial Age organization was inadequately designed to meet productivity demands in a competitive global marketplace. A major strength of Hackman and Oldham's Job Characteristics Model (JCM; 1975, 1980) is that it is highly adaptable for different employee groups and different organizations. At its core, the JCM specifies that several core job dimensions, such as one's level of autonomy, the variety of skills one engages in, and the perceived broad significance of one's tasks, can be used to characterize the most important variables associated with a given job. In theory, work engagement is believed to develop as a function of the same job resources that motivate employees (Hackman & Oldham, 1980) and inspire positive emotions that compel them to remain with the organization. Job resources were found to play both an intrinsic motivational role and an extrinsic one. As an intrinsic motivator, job resources fulfill basic human needs such as the need for autonomy. As extrinsic motivators, job resources such as supportive colleagues and performance feedback increase the likelihood of completing a task successfully.

The JD-R model also agrees with Conservation of Resources (COR) theory (Hobfoll, 1989) that postulates that the main human motivation is directed towards the maintenance and

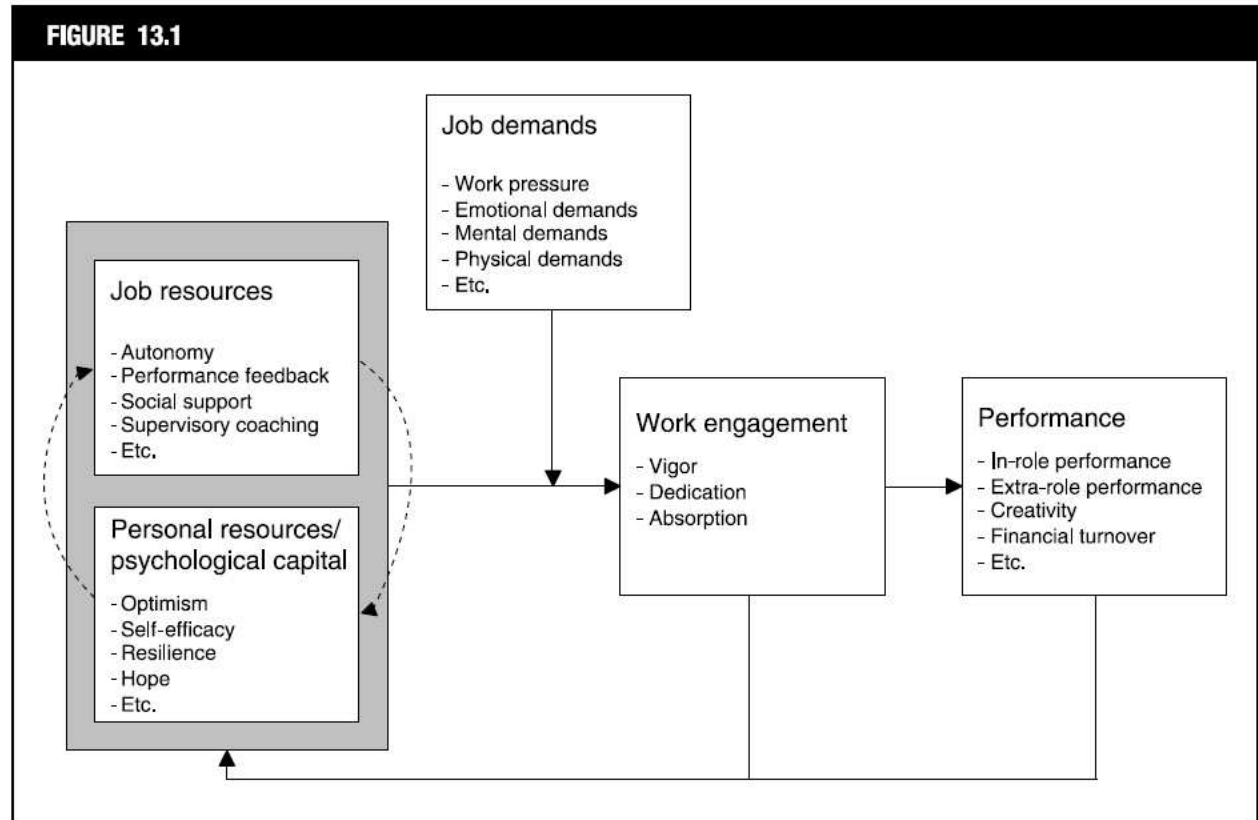
accumulation of resources. The JD-R also has its roots in the DCM (Karasek, 1979, 1998) which emphasizes how combining high job demands with low job control can cause job strain and illness. Particularly, the basic tenet is that employees who can decide themselves how to meet their job demands do not experience job strain. Moreover, the ERI model (Siegrist, 1996) also proposes that job demands can lead to job strain when job resources such as salary, esteem rewards and security/career opportunities are lacking.

The main premise of the JD-R model states that regardless of the specific stress risk-factors each occupation involves, these factors can be categorized in two general groups: job resources and job demands (Bakker & Demerouti, 2007). Job demands include the physical, psychological, social, or organizational characteristics of a job that require continued physical, psychological (emotional and cognitive) effort or skills. Job demands can be associated with physiological and/or psychological costs (Demerouti, Bakker, Nachreiner, & Schaufeli, 2001). Among the more researched examples of job demands are time pressure (Demerouti, Bakker, de Jonge, Janssen, & Schaufeli, 2001), job insecurity (Mauno, Kinnunen, & Ruokolainen, 2007), shift work (Demerouti et al., 2001), work overload (Llorens, Bakker, Schaufeli, & Salanova, 2006), work-family conflict (Mauno et al., 2007), unfavourable organizational climate, emotional demands, and negative interactions with clients (Bakker & Demerouti, 2007). Job demands have been found to reduce energy, create stress, and contribute to burnout. They can reduce the dedication aspect of work engagement due to their cognitively and physically taxing attributes that in turn can also reduce absorption levels.

Job resources are the physical, psychological, social, or organizational aspects of the job that can help an employee achieve work goals. Resources can also reduce job demands and the associated costs, as well as stimulate personal growth, learning, and development (Bakker &

Demerouti, 2007). Job resources can be found at the organizational level (e.g. pay, career opportunities, job security), the interpersonal level (e.g., supervisor and co-worker support, team work), and the task level (e.g. role clarity, skill variety, task significance). It has been suggested that personal resources, such as optimism, self-efficacy, and resilience, can supplement job resources to predict work engagement (Bakker & Demerouti, 2007, 2008). Job resources such as social support from colleagues and supervisors (Schaufeli & Bakker, 2004), job control (Hakanen, Bakker, & Demerouti, 2005; Mauno et al., 2007), performance feedback (Demerouti et al., 2001; Llorens et al., 2006), innovative climate, social climate (Halbesleben, 2010), skill variety, autonomy and learning opportunities (Koyuncu, Burke, & Fiksenbaum, 2006) were found to facilitate work engagement.

In a study performed by Schaufeli and Bakker (2004), a positive relationship was found between job demands and burnout. However, the results yielded no relationship between job demands and work engagement. On the other hand, job resources were found to be positively related to work engagement and negatively related to burnout. These findings suggested that resources are more important than demands when predicting engagement (Bakker, Hakanen, Demerouti, & Xanthopoulou, 2007; Schaufeli & Salanova, 2007). Overall, job resources play a dual role in the JD-R model – the obvious one of acting as a resource to the employee at work, and to help employees respond to job demands. Job resources were found to fuel energy and act as barriers against stress by helping build dedication to and identification with one's work. To summarize, while job demands were found to detract from work engagement, job resources contribute to its development. To better convey the relationship between job demands and job resources, they are presented in the figure below (Bakker & Leiter, 2010, p. 187).



The JD-R model of work engagement (based on Bakker & Demerouti, 2007, 2008).

Figure 13.1 was extracted from Baker and Leiter (2010; p. 187)

Work Engagement Antecedents

A variety of antecedents of work engagement have already been identified in a plethora of previous studies. Many of the studies examining work engagement's antecedents through the JD-R model were cross-sectional (Bakker & Demerouti, 2008; Halbesleben & Wheeler, 2008; Schaufeli & Salanova, 2007), however, there were a few longitudinal ones that cemented the validity of this model (Llorens et al., 2007; Mauno, Kinnunen, & Ruokolainen, 2007; Hakanen, Schaufeli, & Ahola, 2008). Most of the antecedents can be categorized as either job demands or as job resources, as well as individual, unit, and organizational level variables. The JD-R model highlights the relation between job demands and job resources, as antecedents of individual and

workplace outcomes (Demerouti et al., 2001; Hakanen, Bakker, & Schaufeli, 2006; Llorens et al., 2006; Salanova, Agut, & Piero, 2005; Schaufeli & Bakker, 2004). For example, satisfaction with coworkers has been found to be positively related to engagement (Avery, McKay, & Wilson, 2008), as has supervisor support (Bakker, Hakanen, Demerouti, & Xanthopoulou, 2007). Other positive correlates include control, rewards, quality of social interactions, fairness, and values congruence, while excessive workload has been found to be a negative correlate (Maslach & Leiter, 2008). For the purposes of this study, variables at both the job level as well as the organizational level were examined as antecedents of work engagement. Job characteristics and organizational culture literatures were explored below and their relation to work engagement was reviewed.

Job Characteristics. In 1975, Hackman and Oldham introduced the Job Characteristics Theory. This theoretical framework presented the idea that the design of an employee's job, measured via objective characteristics, can motivate an employee internally to perform better and feel satisfied with the job. Hence, the more enriched the job, the higher the likelihood of that employee experiencing high motivation and satisfaction. When Hackman and Oldham (1975) formulated this theory, they had two goals in mind: to diagnose jobs to help better redesign them, and to monitor how changes in job design (whether naturally occurring or otherwise), ultimately impacted employee outcomes.

Accordingly, a “Motivating Potential Score” can be calculated as a function of five core job characteristics: autonomy, skill variety, feedback, task identity, and task significance.

Autonomy refers to the independence and discretion available to the employee in determining the scheduling and procedures to be used in performing job tasks. *Skill variety* refers to the number of skills required in order for the employee to perform the various activities associated with the

job. *Feedback* is the degree to which the employee receives clear and direct information about how effectively he or she is performing. *Task identity* is characterized by the degree to which job performance entails the completion of an entire, easily identifiable piece of work, in a way that the employee is responsible for, from beginning to end, tasks that result in a visible outcome. The last characteristic, *task significance* is described as the impact that the job has on the lives or work of other individuals (e.g. co-workers, clients). These five characteristics are proposed to directly influence three critical psychological states within the employee: experienced meaningfulness of work, experienced responsibility for outcomes, and knowledge of results (Hackman & Oldham, 1975). In terms of outcomes, these three states were found to positively related to satisfaction, motivation, performance, and absenteeism (Hackman & Oldham, 1976).

Additional research conducted by Hackman and Oldham (1980) included a factor of growth-need strength as a moderator of the core job characteristics and critical psychological states and personal/work outcomes. Growth-need strength refers to “an individual’s desire to be challenged and to grow on the job or one’s need for personal accomplishment, learning and development on the job (Hackman & Oldham, 1980, p. 85). Individuals with strong growth- need respond more positively to jobs that are high on the five core job dimensions, because such jobs provide opportunities for professional advancement. On the other hand, employees who do not experience growth-need are less likely to be internally motivated from complex jobs. For the purposes of this study, the moderator of growth-need strength won’t be examined since it represents an individual difference antecedent while this study explores the interaction between the employee and his/her environment (job and organizational culture).

Following the JCM's introduction, a number of studies tried to replicate and expand upon the model's basic tenets. The subsequent research identified the psychological states of the JCM

as its major weakness. Despite the empirical evidence of the effects the five core job characteristics had on satisfaction, motivation, and performance, a meta-analysis of JCM identified mixed support for the mediating role of the psychological states (Fried & Ferris, 1987). Some studies produced evidence that some or most of the psychological states had a higher impact on motivation and job satisfaction outcomes than had the job characteristics themselves. Others, on the other hand, found the opposite to be true. Kahn (1990), in introducing the employee engagement construct, described it as comparable to "Hackman and Oldham's notion that there are critical psychological states that influence people's internal work motivation" (p. 702). Additionally, research by Bakker et al. (2004) suggested that Hackman and Oldham's (1975) five core job characteristics can act as job resources that may ameliorate burnout while enhancing work engagement. Recent research has provided some empirical support for the contribution of job characteristics to employee engagement. Feedback and job control (i.e., autonomy) were found to be highly positively correlated with all three of the work engagement components (Llorens, Bakker, Schaufeli, & Salanova, 2006). Schaufeli and Bakker (2004) also identified a positive relationship between feedback and work engagement. Also, Bakker et al. (2004) established positive relationships between various job resources (e.g., autonomy, social support) and work engagement, and further determined that autonomy influences extra-role performance via the mediating effects of engagement.

Organizational Culture. The relationship between culture and organizational functions interested organizational researchers in the early 1980s, and empirical studies examining the impact of culture on organizational activities became popular (Cooke & Rousseau, 1983; Deal & Kennedy, 1982; Denison, 1983; Ott, 1989). In order for coordinated and concerted action to occur, a culture is necessary to provide a measure of shared meaning (Czarniawska-Joerges,

1992). Although the precise definition of culture in organizational settings is a matter of continued debate, most researchers of organizational behaviour would agree that, overall, a culture includes a learned set of rules that govern what one is expected to know, think, and feel in order to meet the standards of organizational membership (Barley & Kunda, 2006). It is expected that organizational culture could act as a resource or a demand in relation to employee engagement.

Studying socialization in organizations prompted researchers such as Schein (1985), Wanous (1980), and Weick (1979) to recognize that culture plays an important role in establishing how well employees fit into an organizational context, and by extension, how well they performed. Schein (1992) proposed three sources from which organizational culture emerges: the beliefs, values, and assumptions of the organization's founders; learning experiences of organization members while the organization grows; and new beliefs, values, and assumptions of new members and leaders. Organizational culture has been found to be conducive to maintaining the social structure within the organization, as well as generating the organization's identity which often distinguishes it from other organizations. The main characteristics of an organization's culture are the beliefs, values, and ideologies adopted by its members. Culture is often characterized by artifacts and observable behavioural norms related to the work environment (Ostroff, Kinicki & Tamkins, 2003). These layers of the organization's culture are passed on through the socialization process to new employees, making it rather stable and resistant to change (Schein, 1990; Schein, 2004). Employees who do not fit within the culture of the organization, may experience difficulties adapting to their work in the organization.

Hakanen and Roodt (2010) pointed out that the JD-R model assumes that task-level resources are only one category of job resources and that other categories include surrounding resources to the employee. Therefore, one such surrounding influence can very well be the organizational culture. The larger organizational context includes hierarchies, operating rules, and resources that influence how work is carried out in the short and long run. Consequently, to better understand the contextual focus of work engagement, the antecedents need to be broadened to the organizational level. This new focus highlighted the central role values played in organizational processes and structures, and how these values could shape the emotional and cognitive relationship that people develop with their work. Such research has the potential to provide important implications for work engagement, however, since very few researchers addressed this notion, further examination is warranted (Hakanen & Roodt, 2010).

Organizational culture per se has been studied in association with work engagement in two cases. First, Hakanen, Bakker and Schaufeli (2006) examined the influence of an innovative organizational climate on work engagement in a sample of Finnish teachers and found that this type of organizational climate influences work engagement and acts as a job resource (Hakanen & Lindbohm, 2008; Hakanen & Roodt, 2010). The second study was performed in a US military organization where the influence of a wingman organizational culture was examined in relation to work engagement (Alarcon, Lyons, & Tartaglia, 2010). The wingman culture is characterized by supporting coworkers and creating a trusting work environment. These studies' findings supported a strong relationship between organizational culture and work engagement. Following these two studies' findings, it is fair to assume that the organizational culture in general has a strong influence on work engagement. Thus, if an organizational culture supports team work and

a collegial work environment, employees are more likely to experience social support from their co-workers and managers and in turn be more engaged with their work.

Work Engagement Outcomes

Most studies examining the consequences of work engagement within the theoretical framework of the JD-R have included organizational commitment and performance (Bakker & Leiter, 2010). Lack of resources such as lack of social support and job control was found to deter employees from accomplishing their goals, causing frustration, withdrawal behaviour, reduced organizational commitment, and increased turnover intentions (Bakker, Demerouti, & Schaufeli, 2003). Various studies have found a relationship between work engagement and meaningful organizational outcomes such as in-role and extra-role behaviour (Schaufeli, Taris, & Bakker, 2006; Bakker, Demerouti, & Verbeke, 2004), turnover intention and organizational commitment (Schaufeli & Bakker, 2004), academic performance (Schaufeli, Martinex, Marques Pinto, Salanova, & Bakker, 2002), and customer service ratings (Salanova, Agut, & Piero, 2005).

Consistent with the present study's depiction of engagement as a mediator in the JCM, engagement has been empirically found to mediate the relationships between job resources, such as coworker support, job security, participative decision-making, and extra-role performance (Bakker, et al., 2004). In a study of the antecedents of performance, researchers determined that engagement mediates the effects of self-efficacy and coworker support on both task performance and extra-role performance (Xanthopoulou, Bakker, Heuven, Demerouti, & Schaufeli, 2008). Similarly, the relationships between job resources and organizational commitment are partially mediated by engagement (Llorens, Bakker, Schaufeli, & Salanova, 2006). Findings regarding engagement's mediating function have largely resulted from investigations of the Job Demands-

Resources (JD-R) model. This study examined two outcome variables that are often viewed as detrimental to the organization: turnover intention and presenteeism.

Turnover Intention. The withdrawal decision process suggests that thinking of quitting is the next logical step after experienced dissatisfaction and the “intention to leave” (Mobley, 1977). Turnover intentions, or intentions to quit a job, have been found to be one of the best predictors of actual quitting (Griffeth, Hom, & Gaertner, 2000). There are many factors that could cause an employee to have turnover intentions, among which are job dissatisfaction, low organizational commitment, and work environments. Work engagement has been found to relate to turnover intention as well as mediate the relationship between job resources and turnover intentions.

Presenteeism. Although some confusion exists in relation to the definition of presenteeism, the most recent scholarly conceptualization of presenteeism involves showing up for work when one is ill (Johns, 2009). This construct is a subject of intense interest to scholars in occupational medicine, but relatively few organizational scholars are familiar with the concept. In the practice world, this subject has slowly gained momentum due to claims that working while ill causes much more aggregate productivity loss than absenteeism (e.g., Collins, Baase, Sharda et al., 2005), as well as to the idea that managing presenteeism effectively could be a distinct source of competitive advantage (Hemp, 2004). At present, there are two main schools of thought in academia: (1) European scholars in management (e.g., Simpson, 1998; Worrall, Cooper, & Campbell, 2000) and epidemiology or occupational health (e.g., Virtanen, Kivimäki, Elovainio, Vahtera, & Ferrie, 2003) who are interested in the frequency of the act of presenteeism as a reflection of job insecurity and other occupational characteristics; and (2) the American medical scholars and consultants, including those in epidemiology and

occupational health, have mainly been concerned with the productivity consequences of presenteeism as a function of various illnesses while ignoring the causes of showing up ill. Both lines of enquiry are legitimate and with continued research could become complementary.

The concept of presenteeism is important because it implies that being sick at work has negative implications on productivity. However, it is necessary to acknowledge that although in most cases it is expected to have some productivity loss due to presenteeism, a presentee employee might be relatively (or even fully) productive when compared to the complete loss of productivity of an absent employee. Problems associated with presenteeism for the employee allude to the possibility that attending work while sick might exacerbate existing medical conditions and lead to impressions of ineffectiveness at work due to reduced productivity.

Intuitively, it seems reasonable that organizational policies, the design of jobs, and the social climate of an organization might affect the propensity to attend work while ill. However, there has been some empirical evidence that suggested that many organizational practices and policies that are designed to prevent absenteeism could in fact stimulate attendance while sick (Johns, 2009). In other cases, presenteeism could be encouraged by acknowledging it as an act of organizational citizenship behaviour and praising it. Unfairness to colleagues is likely to be salient under team-based work designs, giving added prominence to matters concerning attendance. Grinyer and Singleton (2000) reported that the change to teamwork mitigated presenteeism which in turn led to longer-term downstream sickness absence. Norm-based “absence cultures” have been proposed to account for variance in individual attendance (Chadwick-Jones, Nicholson, & Brown, 1982; Johns & Nicholson, 1982; Nicholson & Johns, 1985). In a British study of managers, Simpson (1998) found evidence of “competitive presenteeism” cultures dominated by higher-level male managers. Such cultures demanded long

work hours, the foregoing of recuperation time after grueling business trips, and working while unwell.

In this study, a measure of presenteeism as an outcome of employee engagement tapped into the possible negative consequences of being engaged at work. Previous studies have alluded to the fact that employee engagement may also have a darker side to it and that it could lead to negative consequences as well. For example, two studies (Schaufeli, Taris, and Bakker, 2006; Schaufeli, Taris & Van Rehenen, 2008) examined the relationship between work engagement and workaholism, and found that engagement lacks the compulsive component of workaholism. Thus, an attempt has been made to examine a possible darker side of engagement. In their book, Bakker and Leiter (2010) hint at negative consequences of those who may be “over-engaged”. The present study examined one such possible negative consequence: presenteeism. It is plausible that engaged employees, who are dedicated, involved with, and absorbed by their work would disregard their illness and attend work while sick. Moreover, it was believed that this relationship could be moderated by the organizational culture. Employees who are engaged with their work are even more likely to attend work while sick in a team-oriented culture because not attending could mean that the other team members may have to “pick up the slack”.

Shirom's (2003) Vigor

While Schaufeli and colleagues (2002) solidified their new conceptualization of work engagement, Shirom (2003) was studying a related concept. In an attempt to expand on research analyzing the impact of positive affective states on individual performance and organizational health, Shirom began studying the concept of vigor. Although Shirom has never admitted to studying the concept of employee engagement, he has been acknowledged as a researcher in the field, mainly due to his criticism of work engagement. His conceptualization refers to a single

factor – vigor – which he defines differently than Schaufeli and colleagues' vigor dimension. Shirom (2003) makes a case for the concept of vigor as an affect by suggesting that vigor represents an innate pattern of responses to environmental cues. Vigor is defined as a “positive affective response to one's ongoing interaction with significant elements in one's job and work environment that comprises the interconnected feelings of physical strength, emotional energy, and cognitive liveliness” (Shirom, 2003, p. 12). Shirom's (2003) conceptualization of vigor includes three components: physical strength, emotional energy, and cognitive liveliness. The concept of vigor is related to energetic resources only and manifests itself in three forms of energy that are individually possessed. These three energy forms do not overlap with any other established behavioural science concept.

The conservation of resources theory (COR; Hobfoll, 1989, 1998) is the main theoretical basis for Shirom's concept of vigor. Hobfoll (1988, 1989) developed COR as an alternative to more traditional stress models (e.g., Lazarus & Folkman, 1984; Selye, 1950) that he criticized as lacking predictive capability. The COR's main percept suggests that people have a basic motivation to obtain, retain, and protect resources that they value, such as material, social, and energetic resources. Generally speaking, resources can be either personal energies or characteristics, objects or conditions that are valued by individuals or that serve as means to attain more of the same objects, characteristics, energies, or conditions (Hobfoll, 1989, 1998). Since personal resources exist in a resources pool and affect each other, once one is expanded upon, another will expand as well (Hobfoll, 1998).

Vigor Antecedents

Qualitative research on the antecedents of vigor identified a number of them that are similar to but also different from the ones of work engagement. Theoretically, Shirom (2011)

proposes that antecedents of vigor can take the form of organizational resources (e.g. organizational practices and procedures), group-level resources (e.g., supervisor's leadership style, social support), job-related resources (e.g., job significance, feedback), and individual resources (e.g., socio-economic status, expertise power). However, few of these antecedents have been empirically tested. This study explored the antecedents of job characteristics and organizational culture in relation to vigor.

Job Characteristics. One of the most influential models explaining employee positive affects by job features and their resultant psychological states is the Job Characteristic Model (JCM; Hackman & Oldham, 1980). The job design literature (Grant, 2008; Grant & Sonnentag, 2010) proposes two different psychological mechanisms that tie the core job characteristics with affective reactions. In other words, jobs that are high on the core characteristics of variety, identity, autonomy, and feedback may lead to positive affects such as job satisfaction because they are associated with complex tasks which are challenging (Grant & Sonnentag, 2010). However, jobs that are high on task significance may lead to positive affects with medium or high level of arousal such as vigor or excitement because of the psychological experience of contributing to the well-being of others (Grant & Sonnentag, 2010). A qualitative study on the antecedents of vigor (Shraga & Shirom, 2009) examined the fit of 107 situations and events described by 36 respondents as enablers of experienced vigor with each of the five job characteristics included in the JCM. Their findings proposed three job characteristics: job significance, supervisory feedback, and job identity as the main predictors of vigor (Shraga & Shirom, 2009).

Organizational Culture. Organizations that facilitate employee participation in decision making would most likely increase employees' exposure to many sources of information,

enhance their ability to adjust more flexibly to the demands of diverse role partners, and enable them to develop their creativity (Spector, 1986). Additional empirical findings indicate that reward practices in organizations, such as providing positive feedback following achievements, could lead to employees feeling vigorous (Shraga & Shirom, 2009).

Vigor Outcomes

Shirom (2003) provides evidence that ties vigor to a number of work outcomes among which are employee health and well-being, and burnout. Vigor has been proposed to relate to burnout because both represent two subjective components of a bio-behavioural system and are addressing different types of tasks facing humankind (Watson, Wiese, Vaidya, & Tellegen, 1999). According to this system – named the approach-oriented behavior facilitation - organisms are attracted to situations and experiences that could yield pleasure, rewards, and the procurement of resources essential to human survival (Watson et al. 1999). Based on this approach, Shirom (2003) suggests that feeling burnout would occur when the potential for risk, pain, and loss of resources is high. On the other hand, people may experience vigor when the potential for rewards and additional resources is high. At work, one rarely encounters situations that imply only gain or only loss. Most situations at work entail a combination of varying degrees of gain and loss potentials. For example, job-related tasks have the potential of either gain or loss through good performance or inadequate performance respectively. Following this logic, Shirom (2003) believes that conceptually, burnout and vigor are obliquely related. Positive emotions have been linked to several performance related behaviours (Rafaeli & Worline, 2001; Staw, Sutton, & Pelled, 1994), although vigor has yet to be directly linked with enhanced performance.

For consistency purposes, this study examined the same outcomes as the ones for work engagement: turnover intentions and presenteeism. In terms of turnover intention no previous studies attempted to examine its relationship to vigor. However, it made intuitive sense that employees experiencing high levels of energies at work would not intend to leave the organization. As for presenteeism, since vigor is a manifestation of affective energies, it was suggested that someone who was ill would experience low levels of energies. The main question then was whether it was possible to have a plausible relationship between vigor and presenteeism. Since vigor does not refer to dedication or absorption with one's job, it is unlikely that a relationship exists between vigor and presenteeism unless the relationship is mediated by an organizational culture that encourages employees to attend work while sick. Similarly to work engagement, an employee in a team-oriented organization is likely to attend work while sick so as not to disappoint his/her team members or overload them with additional work. However, in this case, the role of organizational culture is to mediate the relationship between vigor and presenteeism.

Criticism of Employee Engagement

Critiques of the concept of engagement in the workplace come mainly from the academic sector. Wefald and Downey (2009) argued that the concept of engagement may be more of a fad than an actual concept that is theory based, unique, valid, and state-like. There are some issues that are associated with the study of the concept of engagement. First, there is no consensus on the name to give the concept of engagement in the workplace. Some of the concepts are also used interchangeably, such as: work engagement, self engagement, job engagement, organizational engagement, personal engagement, employee engagement, and so it continues.

Second, most of the academic approaches have yet to be fully validated. The concept of engagement in the workplace is relatively new, having been first used by Khan in 1990, and has not yet advanced from the initial conceptualization stage. Third, the issue of dimensionality has also been raised by various researchers, attempting to determine whether engagement in the workplace is a one-factor construct or a three-factor construct. Schaufeli and colleagues (2002; 2006; 2007), Maslach and Leiter (1997), and Khan (1990), all maintain that engagement is a three-factor construct. On the other hand, Shirom (2003) maintains that there is one factor – vigor – and that engagement in the workplace as a three-factor construct is not yet well validated. Research examining Schaufeli and colleagues' model (2002) found high intercorrelations between the three factors of engagement (e.g. Christian & Slaughter, 2007; Schaufeli & Salanova; 2007), suggesting a one factor engagement concept. In addition, mixed results regarding Schaufeli et al.'s (2002) conceptualization of work engagement as a three-factor have also been reported (Britt, Dickinson, Greene, Shortridge, & McKibben, 2007; Hallberg & Schaufeli, 2006; Wefald, 2008).

Present Study

The general purpose of this study is to differentiate between two competing models of employee engagement: Model A - work engagement (Schaufeli et al., 2002); and Model B - Shirom's (2003) vigor concept. Each model was tested by exploring their relationships with antecedents, and outcome variables.

Competing Models of Employee Engagement. To determine whether Schaufeli et al.'s (2002) work engagement was empirically different than Shirom's (2003) vigor, this study compared two models that examined these constructs' relationship with antecedents (job

characteristics and organizational behavior) and outcome variables (turnover intention and presenteeism).

Previous research supports that there is a difference between work engagement and vigor; however, only one study known to the present author compared the two concepts concurrently (Wefald, 2008). Research attempting to integrate engagement in broader theories has been lacking. As a result, the present study aimed to fill a void in the engagement literature by demonstrating these constructs' effects within the Job Characteristics Model, thereby positioning work engagement and vigor firmly within the conceptual framework of a more well-established theory and ultimately expanding researchers' understanding of employee engagement's antecedents and consequences. Determining whether the two models were empirically different has the potential of clarifying and directing future employee engagement research.

Hypotheses

Overall this study compared two models of employee engagement by analyzing their antecedents and consequences. Figure A provides a visual general representation of Model A which explores Schaufeli et al.'s (2002) work engagement. Figure B presents Model B which explores a conceptual framework of Shirom's (2003) vigor.

Figure A: Model A – Work Engagement

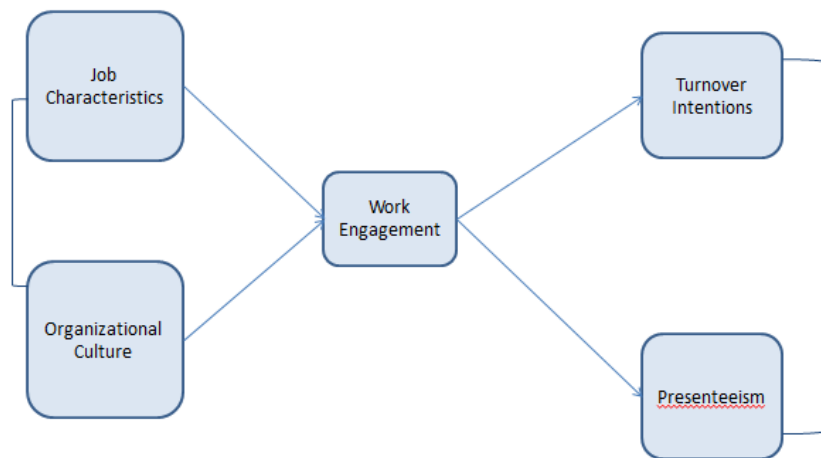
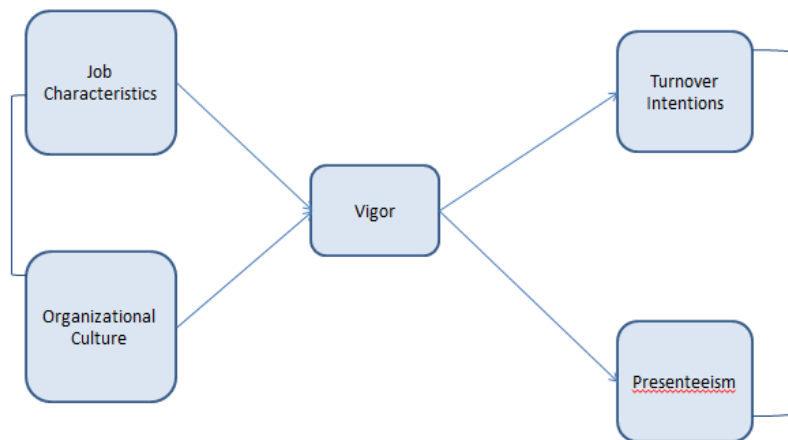


Figure B: Model B – Vigor



Wefald (2008) conducted research that tested competing conceptualizations of employee engagement, among which were Schaufeli's measure of work engagement and Shirom's vigor measure. His findings suggested that Shirom's vigor measure (2003) was a better measure of what is termed engagement. He showed that vigor contributed to the prediction of turnover intentions beyond that of personality, job satisfaction, and affective commitment. Furthermore, the structure of the one-factor vigor construct had a better fit than Schaufeli's one and three factor work engagement structures. The antecedents and outcomes measured in Wefald's (2008)

study are different from the ones examined in the current study, but based on his findings the following hypothesis has been formulated:

H1: The model of vigor (Shirom, 2003) will be different in terms of model fit and antecedents and outcomes paths than Schufeli's (2002) work engagement model.

To test hypothesis 1, work engagement and vigor needed to exhibit different patterns of possible causes and consequences. Thus, this study examined the impact of job characteristics and organizational culture on work engagement and vigor and their influence on turnover intention and presenteeism.

The first antecedent to reflect the differences between the work engagement model and the vigor model was job characteristics. The job characteristics in the JCM were found to be related to work engagement, such that skill variety, autonomy, and feedback were found to impact the degree to which the employee feels engaged (Macey & Schneider, 2008). On the other hand, previous findings on the influence of job characteristics on work engagement and vigor showed some similarities but also differences. Research has shown that jobs high on task significance could lead to positive effects with medium or high level of arousal such as vigor because of the psychological experience of contributing to the well-being of others (Grant & Sonnentag, 2010). Following this theoretical rationale, it is expected that the job characteristics reflecting the relational aspects of the job, such task significance, as well as autonomy to be the most powerful predictors of vigor. In a qualitative study, Shraga and Shirom (2009) found a relationship between vigor and autonomy, feedback, job significance, and job identity. Based on these findings, the following hypothesis states that:

H2: Differences between the work engagement and vigor models will be reflected in the job characteristics antecedent, such that the three job characteristics of

autonomy (H2a), feedback (H2b), skill variety (H2c) will be positively related to work engagement, while the four job characteristics of autonomy (H2d), feedback (H2e), job significance (H2f), job identity (H2g) will be positively related to vigor.

The second antecedent to reflect the differences between the model of work engagement and the model of vigor was organizational culture. Since the job resource of social support from colleagues and supervisors, was found to facilitate work engagement (Bakker & Demerouti, 2008; Hallbesleben & Wheeler, 2008; Schaufeli & Salanova, 2007), it is expected that the dimension of supportiveness is related to work engagement. Work engagement has also been found to be positively related with innovativeness at work (Hakanen Perhoniemi, & Toppinnen-Tanner, 2008). This leads to the expectation that an innovative culture is positively related to work engagement. On the other hand, no studies to date examined the impact of organizational culture on vigor; however, several studies alluded to the fact that vigor is impacted by the organizational culture. COR theory proposes that positive relations among organizational members can appear to directly enhance individuals' likelihood of experiencing vigor at work. Some research suggests that supportive relationships at work are related to high levels of vigor (Shrout, Herman, & Bolger, 2006). In addition, a cohesive and participatory culture could lead to employees experiencing more vigor (Shraga & Shirom, 2009).

Therefore, the following hypotheses were formulated:

H3: Differences between the work engagement and vigor models will be reflected in the organizational culture antecedent, such that the organizational culture of supportiveness (H3a) and innovative culture (H3b) will be positively related to work engagement, while only the organizational culture of supportiveness (H3c) will be positively related to vigor.

In terms of relationship between work engagement and vigor to outcome variables, it is expected that mediation and moderation analyses would best reflect these complex relationships. Research examining the relationship between work engagement and turnover intentions found that there is a negative relationship between the two. Moreover, work engagement was found to mediate the relationship between job resources and turnover intention (Schaufeli & Bakker, 2004). Shirom's vigor measure has never been studied in relation to turnover intentions; however, vigor as measured by Schaufeli & Bakker (2002) provided support to the premise that a person with energetic resources at work would likely experience low turnover intention. In addition, previous research has found a relationship between vigor and the job characteristics: autonomy, feedback, job significance, and job identity (Grant & Sonnentag, 2010; Shrager and Shirom, 2009). Turnover intentions have been often associated with job characteristics (Spector, 1986). Based on these premises, it is expected that:

H4: Differences between the work engagement and vigor models will be reflected in that work engagement will mediate the relationship between the job characteristics of autonomy, feedback, and skill variety, and turnover intentions (H4a), while vigor will mediate the relationship between the job characteristics of autonomy, feedback, job significance, and job identity, and turnover intentions (H4b).

It is expected that presenteeism may act as a negative consequence moderated by the organizational culture. It makes intuitive sense that engaged employees who are dedicated, involved with and absorbed by their work would attend work while sick. Moreover, it is believed that this relationship would be moderated by the organizational culture. Employees who are engaged with their work are even more likely to attend work while sick in a team-oriented

culture, for example, because not attending could mean that the other team members would have to do the sick employee's work.

On the other hand, since vigor is a manifestation of affective energies, it is likely that someone who is ill would experience low levels of energies. The question arising in regards with vigor is whether there is a plausible relationship between vigor and presenteeism. Since vigor does not refer to dedication or absorption with one's job, it is unlikely that a relationship would exist between vigor and presenteeism unless this relationship is mediated by an organizational culture that encourages employees to attend work while sick. An employee in a team-oriented organization would be likely to attend work while sick, so as not to disappoint his/her team members or overload them with additional work. However, in this case, vigor is not expected to have a relationship with presenteeism unless it is mediated by organizational culture.

Therefore, this hypothesis has been formulated:

H5: Differences between the work engagement and vigor models will be reflected in that the organizational culture of supportiveness (H5a), competitiveness (H5b), and performance orientation (H5c) will *moderate* the relationship between work engagement and presenteeism, while the organizational culture of supportiveness (H5d), competitiveness (H5e), and performance oriented (H5f) culture will *mediate* the relationship between vigor and presenteeism.

Interaction Effects - Work Engagement and Vigor

In addition to the main effects of job characteristics and organizational culture, this study proposes that these variables can interact to affect the engagement levels of employees. More specifically, it is posited that the relationship between the job characteristics and work engagement/vigor would be stronger if accompanied by the appropriate organizational culture.

As mentioned above, according to Hobfoll's COR (1998), employees with a greater pool of resources are less susceptible to resource loss. Therefore, those who have more resources (i.e. both the appropriate job characteristics and the matching organizational culture) would be most likely to experience engagement at work. Based on this, the following hypothesis has been formulated:

H6: Differences between the work engagement and vigor models will be reflected in that the four job characteristics of autonomy, feedback, job significance, and job identity, and the organizational culture of supportiveness will interact with each other to impact vigor to a stronger additive degree than each individually, while the three job characteristics of autonomy, feedback, and skill variety and the two forms of organizational culture of supportiveness and innovative culture will interact with each other to impact work engagement to a stronger additive degree than each individually.

CHAPTER II

Method

Participants

The researcher approached two accountants' associations in Ontario, Canada to allow their members to volunteer to participate in the current study. A total of 76 members from Association A and 216 members of Association B volunteered to participate in the current study. The data was screened for errors and missing data, and nineteen cases (five cases from the Association A group and fourteen cases from the Association B group) were removed due to excessive missing data. These participants' whose data was removed completed only one or two of the questionnaires, and thus the missing data were too extensive to include in the analysis. Therefore, the final sample consisted of 273 participants. Since the participants work in a variety of organizations, the data had occupational unity, which controlled for a potential confounding variable: occupational differences.

Comparisons analyses were performed to detect any difference between the Association B and Association A groups but none were found. The total sample mean age was 46.2 ($SD=9.61$). No significant difference was found with regards to age between Association A ($M=44.9$, $SD=1.29$) and Association B ($M=46.6$, $SD=0.66$). A full description of the remaining sample characteristics for the total sample, Association A members and Association B members, is presented in Table 1.

Table 1: Demographics for Association A and Association B Members

Variable	Total Sample	Association A Members	Association B Members
Sex (% of female)	150 (54.9%)	38 (52.8%)	112 (57.1%)
Education			
High School Diploma	20 (7.3%)	2 (2.8%)	18 (9.0%)

Bachelor's Degree or College Diploma	179 (65.6%)	40 (55.6%)	139 (69.2%)
Master's Degree	54 (19.8%)	23 (31.9%)	31 (15.4%)
Doctoral degree	10 (3.7%)	6 (8.3%)	4 (2.0%)
Preferred not to answer	10 (3.7%)	1 (1.4%)	9 (4.5%)
Income			
\$15,000 – \$44,999	8 (2.9%)	0	8 (4.0%)
\$45,000 - \$74,999	96 (35.2%)	21 (29.2%)	75 (37.3%)
\$75,000 - \$104,999	60 (22.0%)	17 (23.6%)	43 (21.4%)
\$105,000 - \$134,999	51 (18.7%)	19 (26.4%)	32 (15.9%)
\$135,000 and above	35 (12.8%)	12 (16.7%)	23 (11.4%)
Preferred not to answer	23 (8.4%)	3 (4.2%)	20 (10.0%)
Employment Status			
Full-time	238% (87.2)	64 (88.9%)	174 (86.6%)
Part-time	6 (2.2%)	4 (5.6%)	2 (1.0%)
Contract	11 (4.0%)	0	11 (5.5%)
Other	18 (6.6%)	4 (5.6%)	14 (7.0%)
Employment Location			
Office Only	230 (84.5%)	60 (83.3%)	170 (84.6%)
Part Office/Part Home	37 (13.6%)	6 (8.3%)	31 (15.4%)
Home Only	6 (2.2%)	6 (8.3%)	0

Potential demographic differences between the members of Associations A and B were explored. Chi-square tests revealed that a greater proportion of Association A members had completed a Master's Degree (31.9%) and a Doctoral degree (8.3%) than the Association B members (15.4% and 2% respectively), while the Association B members had higher proportions of members who completed a Bachelor's degree or College diploma (69.2% vs. 55.6%) and High school diploma (9% vs. 2.8%), $\chi^2 (3) = 17.09$, $p=.001$. Moreover, chi-square tests revealed that Association B participants (4%) were more likely to be contract employees than Association A participants (0%), $\chi^2 (3) = 9.15$, $p=.027$. Finally, Association A participants (8.3%) were more likely to work from home than Association B member (0%), while Association B members

(15.4%) were more likely to work part of the time in the office and part of the time at home than Association A members (8.3%), $\chi^2(2) = 18.73, p < .001$. There were no significant difference in regards to sex and income.

In addition, differences in the various measures between Association A and Association B were also explored. T-test analyses were performed between the various scales included in this study. A total of 26 scales were compared for Association A and Association B. Given the large number of comparisons, the Bonefferoni correction was applied to prevent type I error. This reduced the alpha value to an extent that all comparisons conducted on the scales were not significantly different between Association A and Association B. However, even if examining the comparisons at $\alpha = 0.05$, only two variables were found to be significantly different between Association A and B: task identity ($t = 2.246, df = 271, p = 0.025$) and professional efficacy ($t = -2.918, df = 181.5, p = 0.004$). Table 2 presents the difference in measures for Association A and Association B. Reading any significance in the difference between the two associations in task identity and professional efficacy needs to be done with caution since the Bonefferoni correction renders null these differences.

Table 2: Study Variables Comparison for Association A and Association B Members

<i>Measure</i>	<i>Association</i>	<i>M</i>	<i>SD</i>	<i>t-value</i>	<i>df</i>	<i>p</i>
Autonomy	A	3.99	.719	.985	271	.325
	B	3.89	.799			
Skill Variety	A	4.22	.595	-.443	271	.658
	B	4.25	.617			
Task Significance	A	3.52	.942	.113	271	.910
	B	3.51	.914			
Task Identity	A	3.75	.750	2.246	271	.025*
	B	3.49	.867			
Feedback from Job	A	3.49	.904	.149	271	.882
	B	3.47	.882			
Feedback from Others	A	3.40	.912	1.317	271	.189
	B	3.22	1.015			
Competitiveness	A	3.54	.915	-.557	271	.578

	B	3.62	1.006			
Social Responsibility	A	3.68	.694	.680	167.8	.498
	B	3.61	.933			
Supportiveness	A	3.73	.842	1.907	151	.058
	B	3.49	1.023			
Innovation	A	3.30	.872	.276	148.5	.783
	B	3.26	1.042			
Emphasis on Rewards	A	3.40	.809	1.218	271	.224
	B	3.26	.852			
Performance Orientation	A	3.60	.835	.732	139.4	.465
	B	3.52	.936			
Stability	A	3.73	.681	1.767	271	0.78
	B	3.52	.887			
Vigor	A	4.91	1.045	.540	271	.589
	B	4.84	1.048			
Dedication	A	5.07	1.167	.908	271	.364
	B	4.93	1.139			
Absorption	A	4.97	1.051	.420	271	.675
	B	4.90	1.052			
Turnover Intentions	A	2.45	1.164	-.015	271	.988
	B	2.46	1.118			
Presenteeism	A	2.51	.822	-1.100	271	.272
	B	2.62	.663			

Measures

Job Characteristics (see Appendix D) were measured with the autonomy, skill variety, task significance, task identity and feedback Likert scales from the Work Design Questionnaire (WDQ; Morgenson & Humphrey, 2006). Autonomy was assessed with the three subscales of the WDQ denoting work scheduling autonomy, decision-making autonomy, and work methods autonomy with previously reported Cronbach alpha of 0.85, 0.85, and 0.88 respectively. The internal consistency reliabilities in this study were 0.76, 0.82, and 0.79 respectively. A sample item of the three-item work scheduling autonomy is: “The job allows me to plan how I do my work.” An example of the decision-making autonomy scale (three items) is: “The job allows me to make a lot of decisions on my own.” Work methods autonomy also has three items, one of which is: “The job allows me to decide on my own how to go about doing my work.” The skill

variety scale has four items, one of which is: “The job requires a variety of skills,” with previously reported Cronbach alpha of 0.86 while this study’s internal reliability was 0.76. The scale of task significance has four items and an example of one is: “The job has a large impact on people outside the organization,” with a reported Cronbach alpha of 0.87, and in this study a Cronbach alpha 0.83. Task identity has four items, one of which is: “The job allows me to complete work I start,” with previously reported internal consistency reliabilities of 0.86, whereas this study yielded a Cronbach alpha 0.76. Feedback was measured using two scales of the WDQ: feedback from job (three items: “The job itself provides me with information about my performance”) and feedback from others (three items: “I receive a great deal of information from my manager and coworkers about my job performance”). Feedback from others was reported to have a Cronbach alpha of 0.88, while this study found it to be 0.77, and feedback from job had a previous Cronbach alpha of 0.86, while this study reports it to be 0.86. The subscales were rated using 5-point scales ranging from 1=Strongly disagree to 5=Strongly agree.

Organizational Culture (see Appendix E) was measured using an abbreviated version of the organizational culture profile (OCP; Cable & Judge, 1997; O’Reilly et al., 1991). The original OCP was ranked as one of the top measures of organizational culture in terms of reliability, construct validity, and criterion validity (Ashkanasy, Broadfoot, & Falkus., 2000). Sarros et al. (2005) changed the original OCP from a Q-sort measure to a Likert-type scale. The new measure has reported a Cronbach alpha of 0.75. This new measure consists of 28 items instead of the original 54 items. In this version, respondents are asked to complete the statement: “To what extent is your organization recognized for its...” in relation to the 28 items. This scale is rated using a 5-points scale ranging from 1=Not at all to 5 = Very Much. Sample items are: “To what extent is your organization recognized for its adaptability,” “To what extent is your

organization recognized for its emphasis on quality,” and “To what extent is your organization recognized for its being innovative”. The 28 items load on seven dimensions: competitiveness, social responsibility, supportiveness, innovation, emphasis on rewards, stability, and performance orientation. This measure was validated by two studies: one examining the validity of this questionnaire with Australian executives and (Sarros et al., 2005) and the other examining the relationship between employee-organization culture gap (Allard, 2010). This present study found that the Cronbach alphas of the scales were: competitiveness (0.89), social responsibility (0.85), supportiveness (0.88), innovation (0.90), emphasis on rewards (0.75), stability (0.83) and performance orientation (0.88).

Work Engagement (see Appendix F) was measured with two instruments. To test for model 1 and 2, the Utrecht Work Engagement Scale (UWES; Schaufeli & Bakker, 2003) was used. The instrument is composed of 17 self-reported items grouped into three scales: six items measure vigor (e.g., “At my job, I feel strong and vigorous”), five items measure dedication (e.g., “I am enthusiastic about my job”), and six items measure absorption (e.g., “Time flies when I’m working”). All items are scored on a 7-point Likert scale ranging from 1 = “never” to 7 = “always.” Schaufeli, Salanova et al.’s (2002) scale has included 24 items, originally, but after they performed an evaluation of the psychometric properties, seven items were eliminated, resulting in 17 items. Reliability estimates for vigor range from 0.81 to 0.90, dedication from 0.88 to 0.95, and absorption from 0.70 to 0.88 (Schaufeli & Bakker, 2003). The internal consistency reliabilities for the vigor, dedication, and absorption subscales in this study were 0.91 and 0.93 and 0.90, respectively.

Vigor (see Appendix G). Vigor was assessed using the Shirom-Melamed Vigor Measure (SMVM; Cronbach alpha = .92), which includes three scales: physical strength – five items,

emotional energy – four items, and cognitive liveliness – three items. Respondents are asked to indicate how often they experienced each of the feeling states in the past 30 workdays. Items are scored on a 7-point Likert scale, ranging from 1 (“almost never”) to 7 (“almost always”). The physical strength subscale items resemble: “I feel full of pep” (Thayer, 2001). An example of the cognitive liveliness subscale items is: “I feel I am able to contribute new ideas” (Yik, Russell, & Feldman-Barrett, 1999). The emotional energy subscale includes items such as: “I feel able to show warmth to others”. This study yielded a Cronbach alpha of 0.95, while the three scales’ internal consistency reliabilities were as follows: physical strength - 0.93, emotional energy – 0.93, and cognitive liveliness – 0.87.

Presenteeism (see Appendix H) was measured with a combination of an existing measurement tool and an additional question. In this study, the occurrence and frequency of presenteeism was the matter being investigated. There was no presenteeism tool known to the present author that measures how many times the employee attends work sick. To better capture the frequency and the productivity loss aspects of presenteeism, the short version of the Stanford Presenteeism Scale (SPS-6; Cronbach alpha = 0.8). This study found the Cronbach alpha to be 0.93. Additionally, this study added a question that asked the participant to report how often he/she has attended work while sick in the past 12 months.

Turnover Intention (see Appendix I) was measured using the Turnover Cognition scale (Bozeman & Perrewé, 2001) which was adapted from the Mowday, Koberg, & MacArthur (1994) and the Mobley, Horner & Hollingsworth (1978) work. This scale includes five items, each rated on a Likert-type scale with answers ranging from “strongly disagree = 1” to “strongly agree=5.” Sample item is: “I will probably look for a new job in the near future” (Cronbach

alpha ranged from 0.90-0.94 depending on the sample). This study found the internal consistency reliability to be 0.89.

Demographic Questionnaire (see Appendix J). Demographic questions asked about the participants' age, gender, organization type, department, employment status, profession category, length of time working in specific profession, and length of time working with the organization.

Procedure

Upon receiving approval from the University of Windsor Research Ethics Board, potential professional Associations were contacted. Association A and Association B of Ontario agreed to have their members volunteer for this study. Each of the organizations had a different platform of reaching their members. Association A agreed to post an ad (see Appendix A) on their designated volunteer website where the link to the survey was posted. Members interested in volunteering opportunities would log onto the volunteering website and look for the options available. Association B agreed to include the ad in the e-newsletter that was sent by e-mail to all its members in Ontario, asking them to participate in the current study. The recruitment ad asked participants who were interested in participating or learning more about the study to log in using the group username and password (posted in the recruitment ad). The online survey was password protected as per the requirement of the copyright holder of the Maslach Burnout Inventory Scale.

Once participants logged in, they were first required to read through the letter of information (see Appendix B) and if they decided to participate, they were then asked to click "I agree to participate" which took them to the survey. Participants were allowed to exit the survey and log in at a later time or date to continue the survey. The survey also gave participants an option to exit the survey at any point and discard their responses. After participants submitted

their survey responses, they each had the option to enter a draw for 1 of 3 \$50 RBC VISA pre-paid credit cards by entering their name and e-mail address into a ballot. To protect their confidentiality, e-mail addresses were saved in a separate database and were not linked with survey responses. Upon completion of the survey, all participants were presented with an explanation of the study (Appendix C) that they could print and keep for their records. The survey was active for a month and a half, mostly to allow for the timely delivery of the e-newsletter to the Association B participants.

Data Analysis

Confirmatory factor analyses (CFA) were conducted to establish Schaufeli's et al. (2002) three factor construct of work engagement as well as Shirom's (2003) vigor measure. The CFA was based on the covariance matrix of the items using maximum likelihood (ML) estimation and conducted using AMOS 20. Latent variables were scaled by fixing one loading to one. Prior to analyses, the data were screened for univariate and multivariate normality and outliers. Multivariate outliers were screened using Mahalanobis distance ($p < 0.001$). Only several items showed skewness and kurtosis, but with no serious violations of univariate or multivariate normality. All other CFA-related assumptions were met.

Structural Equation Modeling (SEM) methods using the AMOS 20 program was used to test the two employee engagement models: Schaufeli's et al.'s (2002) work engagement, and Shirom's (2003) vigor concept. By doing so, the impact of job characteristics and organizational culture on work engagement and vigor was explored. Moreover, the employee engagement construct's direct and indirect effects on workplace outcome variables (turnover intention and presenteeism) were examined. This study utilized maximum likelihood estimation methods and covariance matrix items. Absolute goodness of fit indices such as: (1) the goodness of fit

statistic; (2) the Root Mean Square Error of Approximation (RMSEA); and (3) Goodness-of-Fit Index (GFI) were assessed. Since large sample sizes often lead to the rejection of the hypothesized model (Kline, 2005), the use of relative goodness of fit indices provided a more parsimonious result (Bentler, 1990). The following relative goodness of fit indices were also calculated: (1) the Tucker-Lewis index (TLI); (2) Incremental Index of Fit (IFI; Bollen, 1989); and (3) Comparative Fit Index (CFI; Hoyle, 1995). To assess baseline fit, the RMSEA values of 0.8 or less often indicate acceptable fit (Hu & Bentler, 1999; Thompson, 2004). The incremental fit indices (CFI, TLI, and IFI) indicate acceptable fit when values are 0.95 or larger. Furthermore, to test for the interaction effects and to test for moderation hypotheses, an SEM analysis using Mplus 6.2 was performed.

With no set rules in the literature regarding sample size for SEM analyses, Schumacker and Lomax's (2004) suggestion, following their examination of the literature, that the sample size be larger than 250 participants was adopted.

CHAPTER III

Results

In order to facilitate navigation through the results, the results of this study have been divided into four broad sections. First, the results for the confirmatory factor analyses of the main constructs of interest are presented in order to establish the suitability of the factor structure of Schaufeli et al.'s (2002) work engagement measure, and Shirom's (2003) vigor measure. The second section presents the descriptive results for the study variables and their relations to each other. The third section presents Schaufeli's (2002) work engagement measure in the hypothesized SEM model and model fit is assessed. The fourth section tests Shirom's (2003) vigor measure in its respective hypothesized model and model fit is assessed.

Confirmatory Factor Analyses of Employee Engagement Measures

To evaluate the factor structure of the various employee engagement measures (Work Engagement, Vigor, Burnout, and Job Apathy), confirmatory factor analyses (CFA) were performed. When comparing the fit of these constructs, the chi-square statistic was used to assess the overall fit of the model. Since the chi-square is an insufficient indication of model fit, Kline (2004) recommended using a minimal set of indices such as: (a) an index that describes the proportion of explained variance such as the Comparative Fit Index (CFI; Bentler, 1990) or alternatively the Incremental Fit Index (IFI; Bollen, 1989); (b) an index that adjusts the proportion of explained variance for model complexity such as Tucker-Lewis index (TLI; 1973); and (c) an index based on the standardized residuals such as the root mean square error of fit index (RMSEA; Steiger & Lind, 1980). When assessing the baseline fit index, the RMSEA values of .08 or less are generally taken to indicate reasonable model fit (Hu & Bentler, 1999; Thompson, 2004). The incremental fit indices (CFI, TLI, and IFI) with .95 or greater indicate

acceptable fit (Hu & Bentler, 1999; Schreiber, Stage, King, Nora, & Barlow, 2006). Table 3 presents a legend of the abbreviated variable names as presented in the models and the items that are associated with them.

Table 3: Variable Legend

Abbreviation	Item Content
Work Engagement	
UWESVI1	At my work, I feel bursting with energy
UWESVI2	At my job, I feel strong and vigorous
UWESVI3	When I get up in the morning, I feel like going to work
UWESVI4	I can continue working for very long periods at a time
UWESVI5	At my job, I am very resilient, mentally
UWESVI6	At my work, I always persevere, even when things do not go well
UWESDE1	I find the work that I do full of meaning and purpose
UWESDE2	I am enthusiastic about my job
UWESDE3	My job inspires me
UWESDE4	I am proud of the work that I do
UWESDE5	To me, my job is challenging
UWESAB1	Time flies when I'm working
UWESAB2	When I am working, I forget everything else around me
UWESAB3	I feel happy when I am working intensely
UWESAB4	I am immersed in my work
UWESAB5	I get carried away when I'm working
UWESAB6	It is difficult to detach myself from my job
Vigor	
SMVMPHYS1	I feel full of pep
SMVMPHYS2	I feel I have physical strength
SMVMPHYS3	Feeling vigorous
SMVMPHYS4	I feel energetic
SMVMPHYS5	Feeling of vitality
SMVMCL1	I feel I can think rapidly
SMVMCL2	I feel I am able to contribute new ideas
SMVMCL3	I feel able to be creative
SMVMEE1	I feel able to show warmth to others

SMVMEE2	I feel able to be sensitive to the needs of coworkers and customers
SMVMEE3	I feel I am capable of investing emotionally in coworkers and customers
SMVMEE4	I feel capable of being sympathetic to coworkers and customers

The models tested the structure of the scales as follows: (a) one-factor work engagement model (Schaufeli et al., 2002); (b) three-factor work engagement model (Schaufeli et al., 2002); (c) one-factor model of Vigor (Shirom, 2003); and (d) three-factor model of Vigor (Shirom, 2003).

(a) *One-factor work engagement model (Schaufeli et al., 2002)*. Figure 1 present the one-factor work engagement model as proposed by Schaufeli et al. (2002). The results using the chi-square statistics (χ^2) showed that this model should be rejected. Inspection of goodness-of-fit indices revealed that this model showed poor fit: χ^2 (119, N=273) = 673.44, CFI = .856, IFI = .857, TLI = .836, and RMSEA = .131 (.121-.141). In an effort to improve model fit, modification indices were reviewed. The modification indices suggested correlating error terms. However, this method of correlating error terms to improve model fit should be used sparingly and be theoretically or methodologically justified (Kline, 2004), thus the suggested modification were carefully considered. In total, seven pairs of error terms were allowed to correlate because inspection of these items revealed the possibility of misspecified error covariance. Measurement error covariances refers to systematic measurement error in item responses resulting from either items characteristics or respondent characteristics (Aish & Jöreskog, 1990). Items characteristics would refer to a small omitted factor, while respondent characteristics refer to bias such as socially desirable responses. Error covariances are also triggered by high degrees of

overlap in item content. It is believed that in this study, there is item overlap in the seven pairs identified. The modifications yielded a better fitting model (See figure 2) than the hypothesized model, $\chi^2 (112, N=273) = 455.15$, CFI = .911, IFI = .912, TLI=.892 and RMSEA = .106 (.096-.116), but it still did not meet the standards for a good fitting model.

Figure 1: One-Factor Work Engagement Model (Schaufeli et al., 2002)

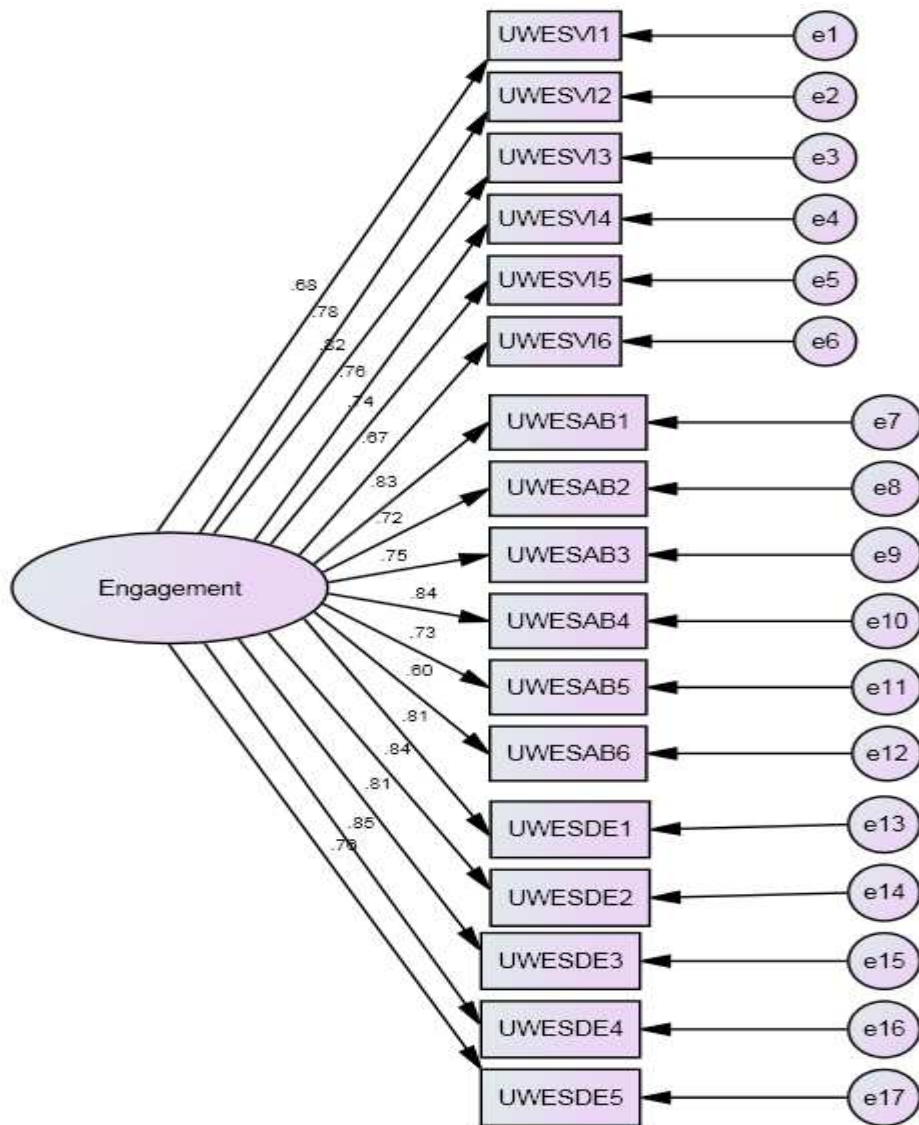
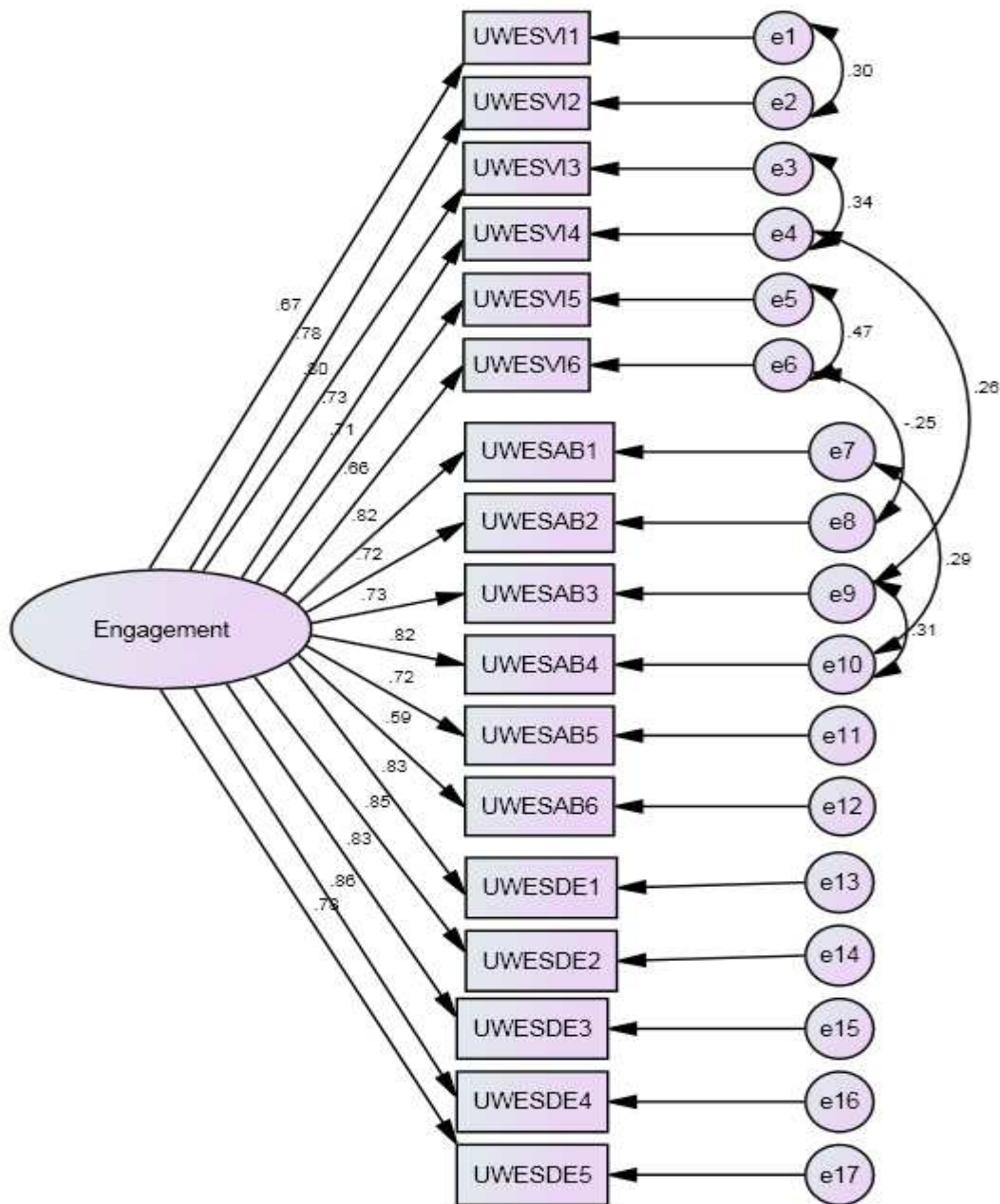


Figure 2: Modified One-Factor Work Engagement Model (Schaufeli et al., 2002)



(b) *Three-factor work engagement model (Schaufeli et al., 2002)*. Figure 3 presents the three-factor work engagement model as proposed by Schaufeli et al. (2002). The results using the chi-square statistics (χ^2) showed that this model should be rejected. Inspection of goodness-of-fit indices revealed that this model showed poor fit: χ^2 (116, N=273) = 451.14, CFI = .913, IFI = .914, TLI = .898 and RMSEA = .103 (.093-.113). In an effort to improve model fit, modification indices were reviewed to suggest improvements. Using caution, five pairs of error terms were allowed to correlate in order to yield a better fit (see figure 4) than the hypothesized model, χ^2 (111, N=273) = 342.05, CFI = .940, IFI = .940, TLI=.927 and RMSEA = .087 (.077-.098), marginally meeting the standards for an acceptable fitting model.

Figure 3: Three-Factor Work Engagement Model (Schaufeli et al., 2002)

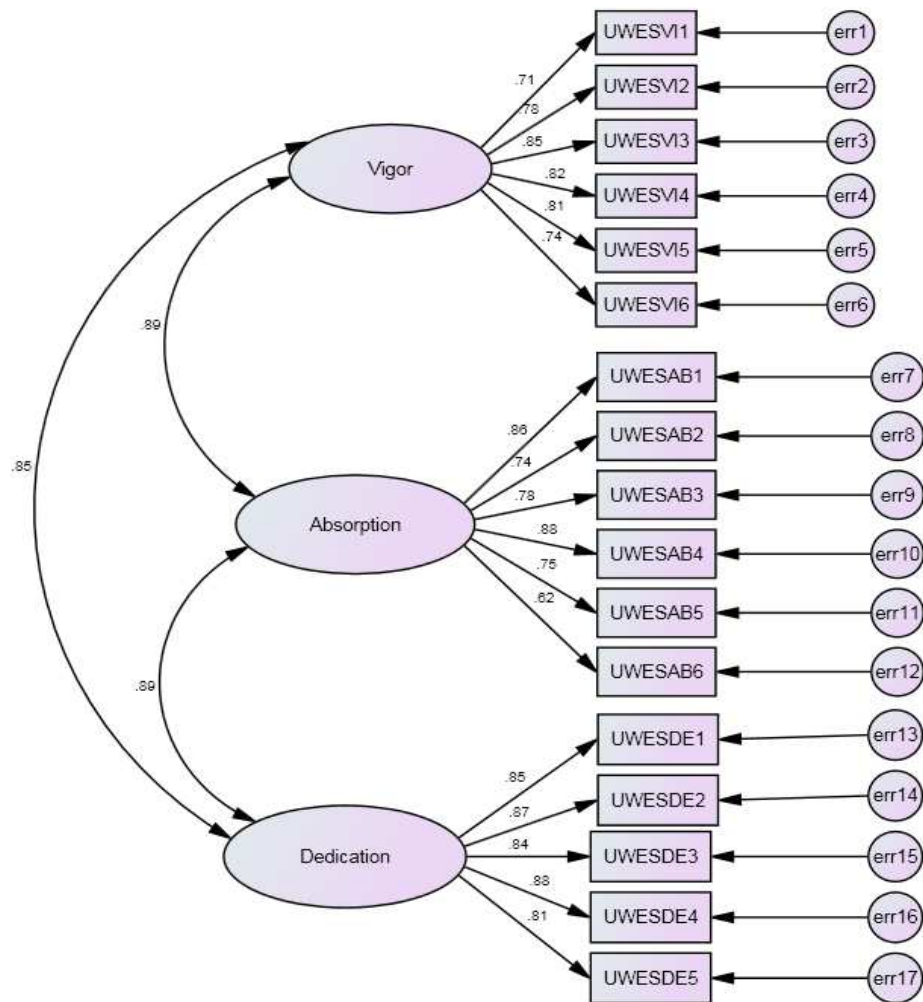
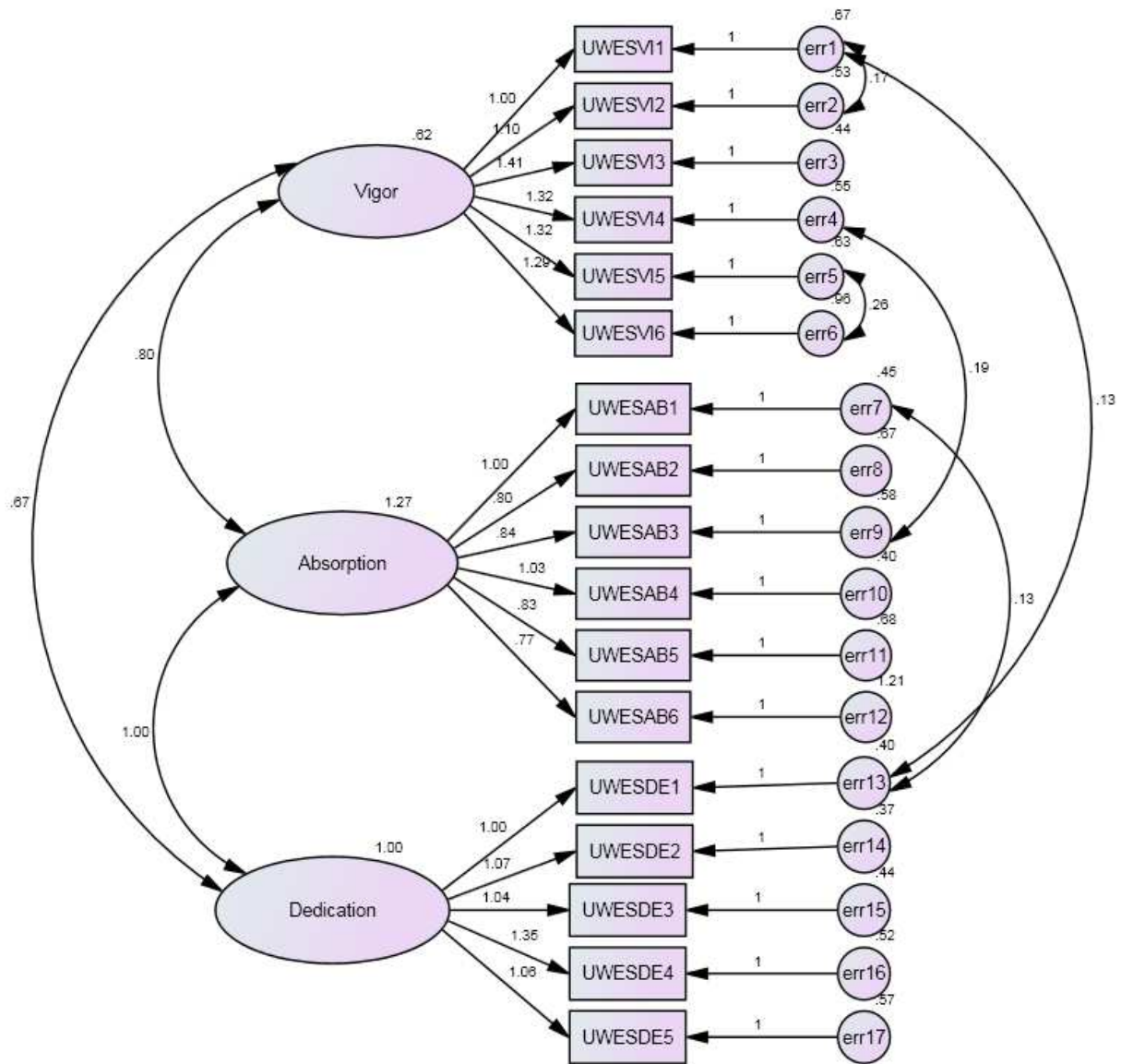


Figure 4: Modified Three-Factor Work Engagement Model (Schaufeli et al., 2002)



To summarize, both the one factor work engagement model and the three-factor work engagement model yielded similar results after implementing modifications. In general, it seems that the three factor model produced a better fitting model than the one-factor model and had marginally acceptable model fit.

(c) *One-factor model of Vigor (Shirom, 2003).* Figure 5 presents the one-factor vigor model as proposed by Shirom (2003). The chi-square statistics (χ^2) showed that this

model should be rejected. Inspection of goodness-of-fit indices revealed that this model showed poor fit: χ^2 (56, N=273) = 603.097, CFI = .811, IFI = .812, TLI = .769 and RMSEA = .193 (.180-.207). In an effort to improve model fit, modification indices were reviewed to suggest improvements. Using caution, six pairs of error terms were allowed to correlate because inspection of these items revealed considerable overlap in item content. These modifications yielded a better fit (see figure 6) than the hypothesized model, χ^2 (48, N=273) = 295.158, CFI = .915, IFI = .915, TLI = .883 and RMSEA = .138 (.123-.153), but it still did not meet the standards for a good fitting model.

Figure 5: One-factor model of Vigor (Shirom, 2003)

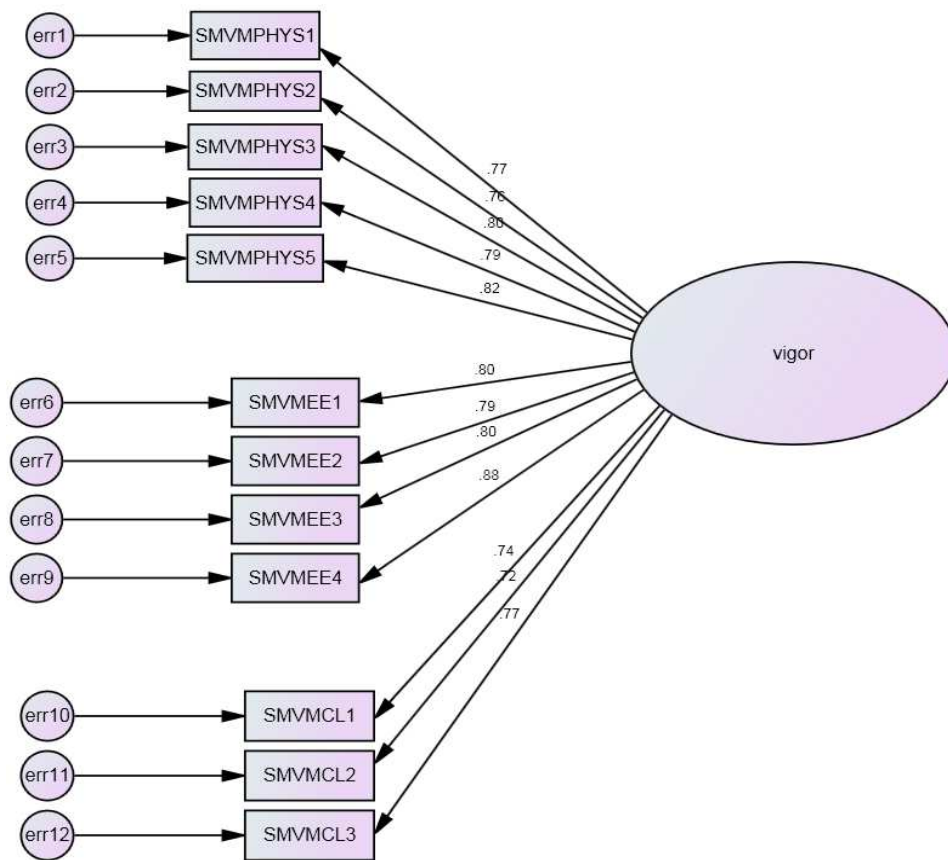
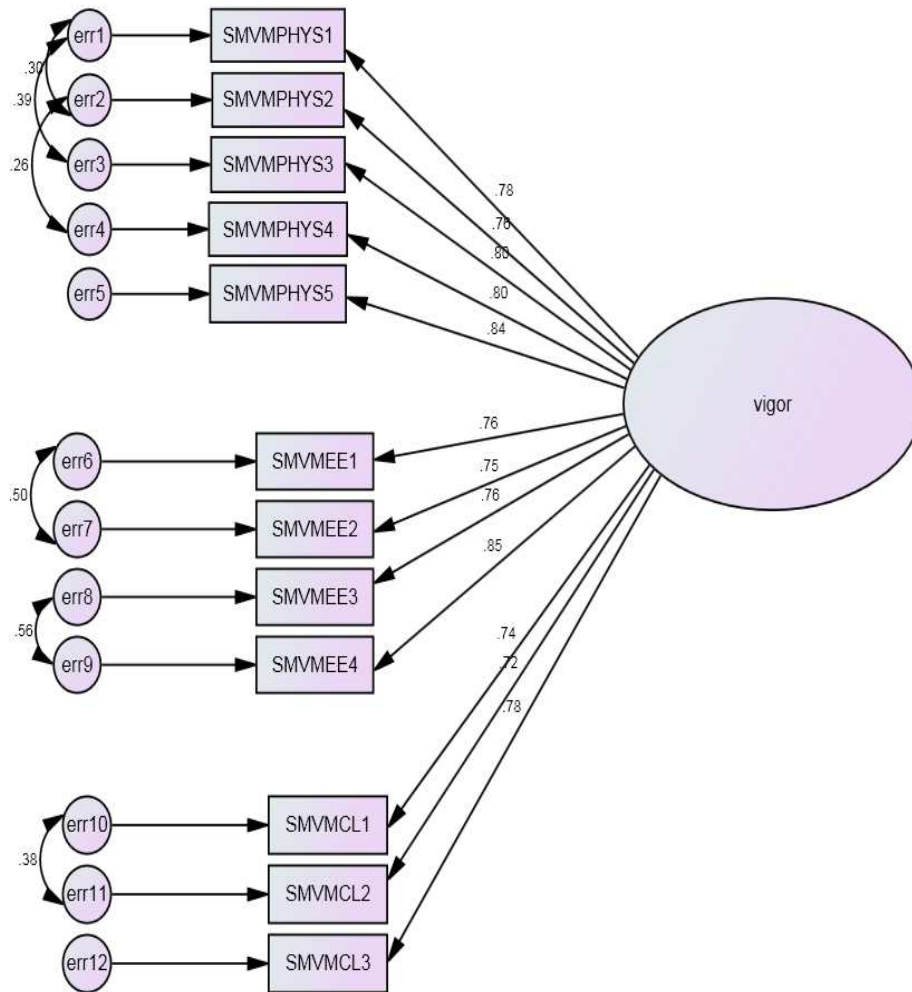
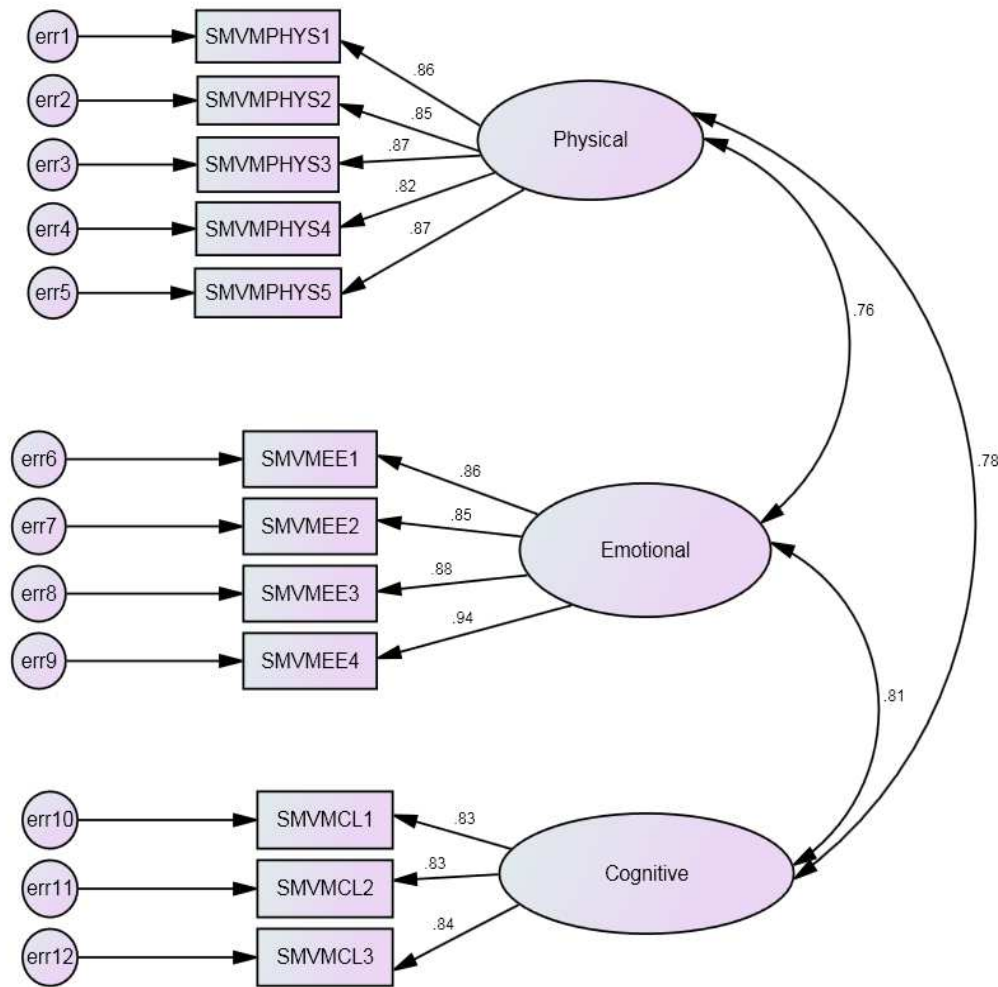


Figure 6: Modified One-factor model of Vigor (Shirom, 2003)



(d) *Three-factor model of Vigor (Shirom, 2003)*. Figure 7 presents the three-factor vigor model as proposed by Shirom (2003). The chi-square statistic (χ^2) for this model was rejected. Inspection of goodness-of-fit indices revealed that this model showed acceptable fit: χ^2 (51, N=273) = 143.71, CFI = .968, IFI = .968, TLI = .959, and RMSEA = .082 (.066-.098). Since this model met the standards for an acceptable fitting model and the modifications indices did not present any options to improve fit, no additional changes were implemented to improve model fit.

Figure 7: Three-Factor Model of Vigor (Shirom, 2003)



In conclusion, the three-factor vigor model yielded the best results, reaching acceptable model fit. Since the three-factor structure was the best fit for both Shirom's (2003) vigor measure as well as Schaufeli et al.'s (2002) work engagement measure, these were used to test the various hypothesized models going forward. Table 4 presents the standardized regression weights and correlations among the three factors of Schaufeli et al.'s (2002) work engagement model. In addition, Table 5 includes descriptive statistics for each of the 17 items. As presented in the table, the three-factor work engagement model of Schaufeli et al. (2002) showed that the standardized regression weights from each latent construct to the 17 observed variables ranged

from .67 to .91. The correlations between the three factors were all significant at $p < .05$ (r s ranged from .78 to .81).

Table 4: Standardized Parameter Estimates, Means, Standard Deviations and Factor Correlations for Confirmatory Factor Analysis of Schaufeli's (2002) Work Engagement (N=273)

	Work Engagement Item	Standardized regression weights			<i>M</i>	<i>SD</i>
		Vigor	Dedication	Absorption		
UWES VI1	At my work, I feel bursting with energy	.67			4.55	1.13
UWSE VI2	At my job, I feel strong and vigorous	.77			4.69	1.14
UWES VI3	When I get up in the morning, I feel like going to work	.86			4.64	1.30
UWES VI4	I can continue working for very long periods at a time	.91			5.05	1.28
UWES VI5	At my job, I am very resilient, mentally	.89			5.00	1.31
UWES VI6	At my work, I always persevere, even when things do not go well	.79			5.20	1.42
UWES DE1	I find the work that I do full of meaning and purpose		.84		4.95	1.18
UWES DE2	I am enthusiastic about my job		.80		5.02	1.23
UWES DE3	My job inspires me		.83		4.59	1.24
UWES DE4	I am proud of the work that I do		.89		5.29	1.53
UWES DE5	To me, my job is challenging		.84		4.99	1.30
UWES AB1	Time flies when I'm working			.85	5.02	1.32
UWES	When I am working, I			.83	4.71	1.22

AB2	forget everything else around...			
UWES AB3	I feel happy when I am working intensely	.90	5.09	1.22
UWES AB4	I am immersed in my work	.90	5.05	1.33
UWES AB5	I get carried away when I'm working	.79	4.93	1.25
UWES AB6	It is difficult to detach myself from my job	.76	4.73	1.41
Work Engagement Factors		Correlations among factors		
Dedication		.78		
Absorption		.79	.81	

Table 5 presents the standardized regression weights and correlations among the three factors of Shirom's (2003) vigor measure, as well as descriptive statistics for each of the 12 items. As presented in the table, the three-factor vigor model of Shirom (2003) showed that the standardized regression weights from each latent construct to the 12 observed variables ranged from .82 to .94. The correlations between the three factors were all significant at $p < .05$ (r s ranged from .70 to .72)

Table 5: Standardized Parameter Estimates, Means, Standard Deviations and Factor Correlations for Confirmatory Factor Analysis of Shirom's (2003) Vigor (N=273)

Work Engagement Item		Standardized regression weights			<i>M</i>	<i>SD</i>
		Physical	Emotional	Cognitive		
SMVM PHYS1	I feel full of pep	.86			4.78	1.34
SMVM PHYS2	I feel I have physical strength	.85			5.03	1.37
SMVM PHYS3	Feeling vigorous	.87			4.85	1.32
SMVM	I feel energetic	.82			5.01	1.20

PHYS4					
SMVM PHYS5	Feeling of vitality	.87		4.92	1.27
SMVM EE1	I feel able to show warmth to others		.86	5.60	1.35
SMVM EE2	I feel able to be sensitive to the needs of coworkers and customers		.85	5.59	1.22
SMVM EE3	I feel I am capable of investing emotionally in coworkers and customers		.88	5.55	1.26
SMVM EE4	I feel capable of being sympathetic to co-workers and customers		.94	5.55	1.31
SMVM CL1	I am proud of the work that I do		.83	5.47	1.34
SMVM CL2	To me, my job is challenging		.83	5.39	1.23
SMVM CL3	Time flies when I'm working		.84	5.30	1.19
Work Engagement Factors			Correlations among factors		
Cognitive		.70			
Emotional		.70	.72		

Descriptive Statistics

The following section describes the descriptive results of this study. The means, standard deviations, and correlations for all the study variables are presented in Table 6. Between the job characteristics, skill variety had the highest mean ($M=4.24$, $SD=.61$), while feedback from others had the lowest mean ($M=3.27$, $SD=.99$). Organizational Culture had the highest mean for the dimension of social responsibility ($M=3.62$, $SD=.88$) and lowest mean for innovation ($M=3.27$, $SD=1.00$). In terms of outcome variables, it was found that the levels of turnover among this sample were relatively low ($M=2.59$, $SD=.71$). Similarly, the presenteeism levels were low as

well ($M=2.46$, $SD=.1.13$). Mean scores of the work engagement scales were relatively high (ranging from 4.86 to 4.96), while vigor scales had even higher scores (ranging from 4.92 to 5.57). In terms of correlations, there are some notable ones. Presenteeism frequency and presenteeism related to employee performance were positively related to turnover intentions ($r=.32$, $r=.59$, $p=0.001$, respectively). All job characteristics exhibited mediocre correlations (r 's ranging from .23 to .55). The work engagement three factors were mediocre to highly correlated with the vigor three factors (r 's ranging from .38 to .74).

Table 6: Means, Standard Deviations, and Correlations of all the Study Variable (N=273)

* $p = .05$ ** $p = .001$.

	M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Autonomy	3.92	.78	----												
2. Skill Variety	4.24	.61	.48**	----											
3. Task Significance	3.51	.92	.32**	.42**	----										
4. Task Identity	3.56	.84	.37**	.24**	.23**	----									
5. Feedback – Job	3.48	.89	.38**	.38**	.38**	.53**	----								
6. Feedback -Others	3.27	.99	.34**	.35**	.35**	.33**	.55**	----							
7. Competitiveness	3.60	.98	.06	.22**	.07	.20**	.37**	.38**	----						
8. Social Responsibility	3.62	.88	.47**	.40**	.32**	.34**	.48**	.63**	.42**	----					
9. Supportiveness	3.56	.98	.58**	.34**	.20**	.38**	.55**	.44**	.45**	.72**	----				
10. Innovation	3.27	1.00	.45**	.36**	.21**	.24**	.40**	.42**	.63**	.62**	.66**	----			
11. Emphasis on Rewards	3.30	.84	.43**	.38**	.20**	.40**	.53**	.51**	.64**	.60**	.71**	.60**	----		
12. Performance Orientation	3.54	.91	.28**	.30**	.20**	.27**	.51**	.48**	.63**	.62**	.70**	.57**	.70**	----	
13. Stability	3.58	.84	.44**	.37**	.05	.45**	.46**	.43**	.39**	.57**	.62**	.42**	.61	.56**	----
14. Presenteeism - Frequency	13.58	45.5	-.16*	-.07	.08	.09	-.06	-.10	.08	-.10	-.12*	-.01	-.16*	-.13*	-.10
15. Performance-related presenteeism	2.59	.71	-.34**	-.20**	.04	-.11	-.11	-.21**	-.12*	-.27**	-.34**	-.24**	-.35**	-.30**	-.27**
16. Turnover Intentions	2.46	1.13	-.45**	-.29**	-.03	-.22**	-.38**	-.38**	-.36**	-.45**	-.57**	-.45**	-.59**	-.49**	-.50**
17. Vigor	4.86	1.05	.49**	.43**	.33**	.26**	.45**	.35**	.24**	.52**	.56**	.36**	.54**	.45**	.50**
18. Dedication	4.96	1.15	.42**	.47**	.39**	.21**	.51**	.49**	.34**	.63**	.63**	.43**	.58**	.53**	.45**
19. Absorption	4.92	1.05	.39**	.44**	.28**	.10	.37**	.31**	.27**	.47**	.55**	.35**	.53**	.44**	.40**
20. Physical	4.92	1.15	.48**	.39**	.35**	.32**	.38**	.41**	.27**	.65**	.61**	.49**	.56**	.47**	.59**
21. Cognitive	5.39	1.13	.56**	.60**	.50**	.24**	.34**	.35**	.10	.52**	.52**	.38**	.42**	.33**	.47**
22. Emotional	5.57	1.17	.59**	.62**	.52**	.33**	.34**	.45**	.27**	.59**	.57**	.46**	.51**	.43**	.48**

Table 6: Means, Standard Deviations, and Correlations of all the Study Variable (N=273) - Continued

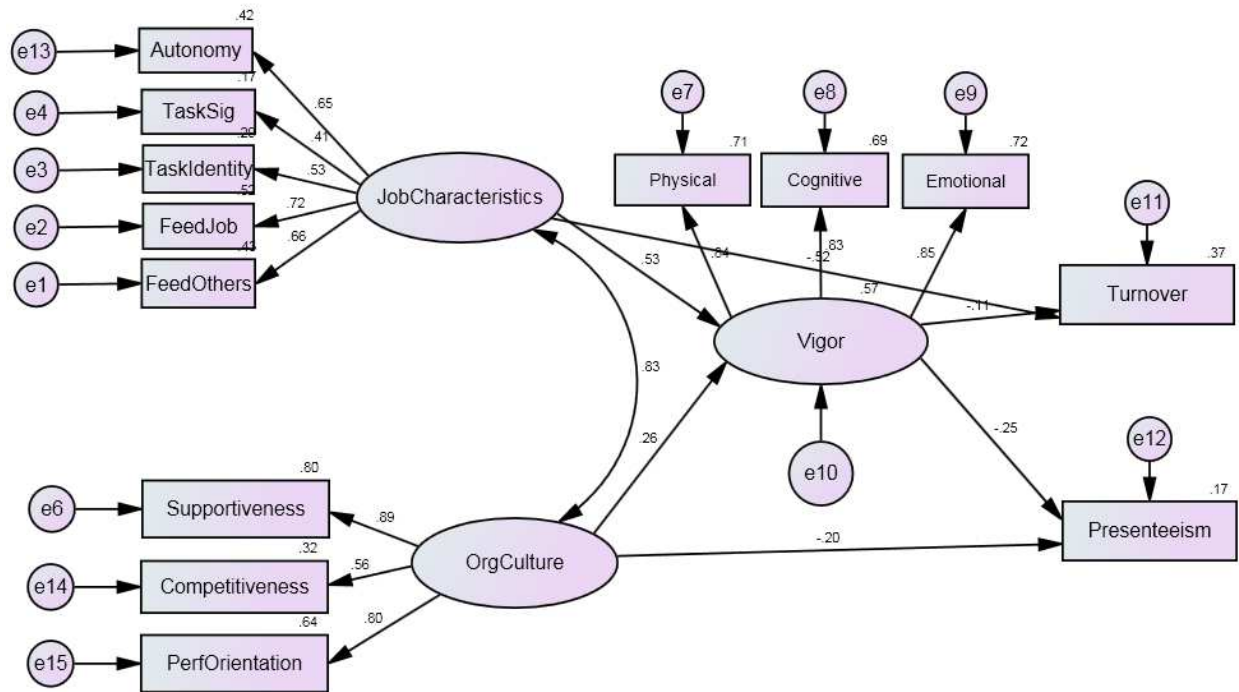
	14	15	16	17	18	19	20	21
1. Autonomy								
2. Skill Variety								
3. Task Significance								
4. Task Identity								
5. Feedback – Job								
6. Feedback –Others								
7. Competitiveness								
8. Social								
Responsibility								
9. Supportiveness								
10. Innovation								
11. Emphasis on								
Rewards								
12. Performance								
Orientation								
13. Stability								
14. Performance-	----							
related presenteeism								
15. Presenteeism	.47**	----						
Frequency								
16. Turnover	.59**	.32**	----					
Intentions								
17. Vigor	-.35**	-.21**	-.39**	----				
18. Dedication	-.28**	-.15*	-.44**	.78**	----			
19. Absorption	-.32**	-.18**	-.41**	.79**	.81**	----		
20. Physical	-.32**	-.11	-.40**	.74**	.67**	.60**	----	
21. Cognitive	-.34**	-.14*	-.42**	.61**	.43**	.50**	.70**	----
22. Emotional	-.29**	-.04	-.38**	.65**	.38**	.52**	.70**	.72**

Scale scores were used to represent measured variables with associated latent variables. Since turnover and presenteeism, were composed of one scale each, they were represented by a square as a measured variable with no associated latent variable. These models included the antecedent variables, organization culture and job characteristics, with only the hypothesized scales as measured variables, the vigor, work engagement, and the outcome variables – presenteeism and turnover. Since the work schedule autonomy, the decision making autonomy, and the work methods autonomy scales were highly correlated with each other (r s ranged between .727 and .832) and because most of the hypotheses refer to one construct of autonomy, these three scale measures were averaged to form one scale titled: “autonomy.”

Shirom's (2003) Vigor Model Fit

When examining the hypothesized model of Shirom's (2003) vigor measure, only the job characteristics of autonomy, task identity, task significance, feedback from job and feedback from others were hypothesized to impact vigor (Shraga & Shirom, 2009). In terms of organizational culture, only supportiveness (Shrout, Herman, & Bolger, 2006; Shraga & Shirom, 2009) was predicted to impact vigor. The supportiveness scale was included in the model as a measured variable. In conclusion, only the hypothesized scales were analyzed to determine their impact on the three-factor vigor measure, presenteeism, and turnover intentions. Figure 8 illustrates the hypothesized model. The hypothesized model provided poor fit to the data, χ^2 (60, N=273) = 439.14, $p < .001$; goodness of fit index CFI = .789, IFI = .791, TLI = .726, and RMSEA = .152 (.139-.166).

Figure 8: Impact of Job Characteristics and Organizational Culture on Vigor, Presenteeism, and Turnover Model



Modification indices were inspected and it was found that correlating the errors associated with presenteeism and turnover intentions would reduce χ^2 by approximately 64. Although a relationship between turnover intentions and presenteeism is not intuitive, if one looks at the available research literature, a case can be made for such a relationship. When examining the correlation between presenteeism and turnover intentions in this study, a significant positive relationship is found ($r = .59, p < 0.001$; See Table 5). It is especially so since it seems that the only direct effect to presenteeism comes from organizational cultures that are innovative and supportive. Moreover, since presenteeism is akin to physical or mental withdrawal from work due to an illness while turnover intention is a psychological intention to physically withdraw from work, a link between the two can be formed. This argument is strengthened by the fact that presenteeism was negatively related to work engagement and organizational culture, suggesting that those high on presenteeism are not engaged with their jobs

and neither experience supportiveness or innovativeness at work. Therefore, it would make sense that those employees were most likely unhappy, they were attending work sick, and therefore intended to leave their jobs. Thus, it seems that respondents high on turnover intentions were also those who were more likely to attend work sick.

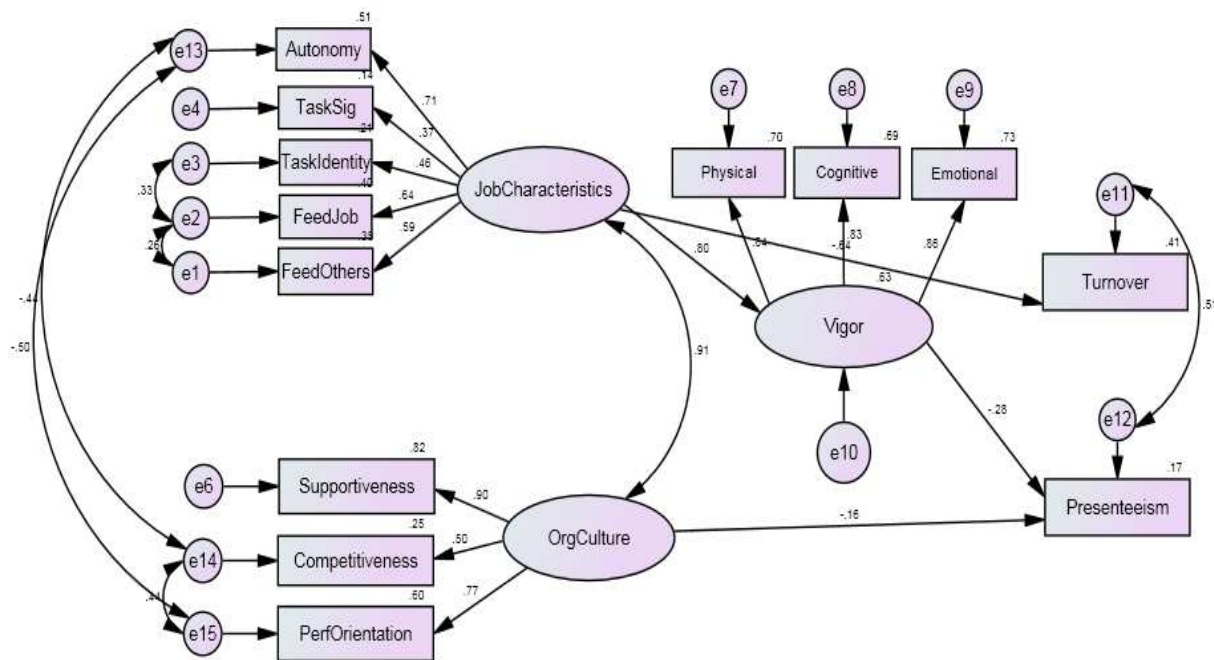
Next, the modification indices showed that correlating the error terms of performance orientation and competitiveness would decrease χ^2 by approximately 44. Since a highly performance-oriented culture would most likely also be a highly competitive culture, these correlations were implemented. Further modifications were indicated in correlating the task identity and feedback from job and achieving a reduction in χ^2 of approximately 19. Since it makes sense that a job high in task identity would most likely receive high degrees of feedback from the job itself, these errors were allowed to correlate.

The next modification was to correlate the error terms of feedback from job to feedback from others which would decrease by approximately 21. It seemed to make sense that the error terms for the two variables associated with feedback should be allowed to correlate, regardless of where the feedback comes from. Therefore, these error terms were allowed to correlate. Additionally, correlating the error terms of competitiveness and autonomy would yield a reduction in χ^2 of 13. This correlation was allowed because it seems reasonable that a highly competitive culture would also allow their employees high autonomy. In a competitive organizational culture, low autonomy would hinder the competitiveness of employees. Thus, a high degree of autonomy is called for in order to allow for the competitive nature of employees to surface. Finally, the error terms of performance orientation and autonomy reduced the χ^2 by 23. This correlation made sense since a highly performance-oriented culture would most likely allow its employees high autonomy. In order for the employees to perform at their highest

ability, especially in the current cut-throat economy, they cannot be slowed down by a job low in autonomy.

Tabachnick and Fidell (2001) argue that as part of the goal in modeling is the development of a parsimonious, good fitting model with non-significant parameters deleted. The standardized regression estimates were examined and it was found that two paths between organizational culture to vigor and from vigor to turnover, were non-significant and therefore removed from the final model. The final model (see figure 9) was much improved than the hypothesized model, but had marginally acceptable fit to the data, $\chi^2 (56, N=273) = 201.66$, $p < .001$, CFI = .919, IFI = .920, TLI = .887, and RMSEA = .098 (.083-.113).

Figure 9: Impact of Job Characteristics and Organizational Culture on Vigor, Presenteeism, and Turnover – Modified Model

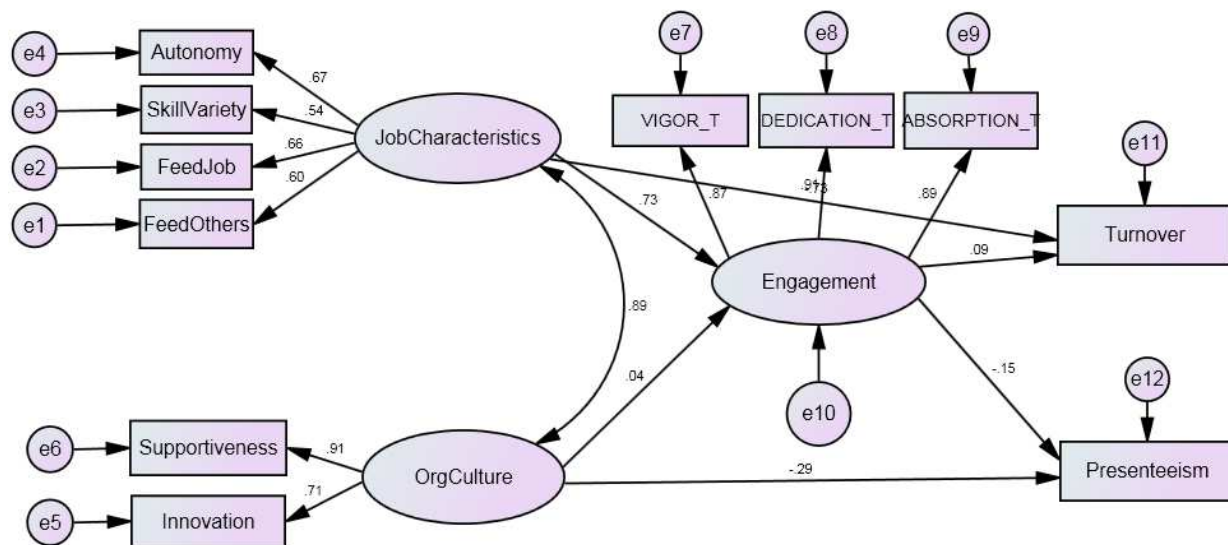


Schaufeli et al. (2002) Work Engagement Model Fit

Based on the hypotheses, only the job characteristics of autonomy, skill variety, feedback from job, and feedback from others were hypothesized to impact work engagement (Macey &

Schneider, 2008). In terms of organizational culture, only innovation (Hakanen, Perhoniemi, & Toppinnen-Tanner, 2008) and supportiveness (Bakker & Demerouti, 2008) were predicted to affect work engagement. Therefore, only these scales were allowed to load onto their respective latent variables. Figure 10 illustrates the hypothesized model, which provided poor fit to the data, χ^2 (39, N=273) = 241.48, $p < .01$; goodness of fit index CFI = .877, IFI = .878, TLI = .826, and RMSEA = .138 (.122-.155).

Figure 10: Impact of Job Characteristics and Organizational Culture on Work Engagement, Presenteeism, and Turnover Model

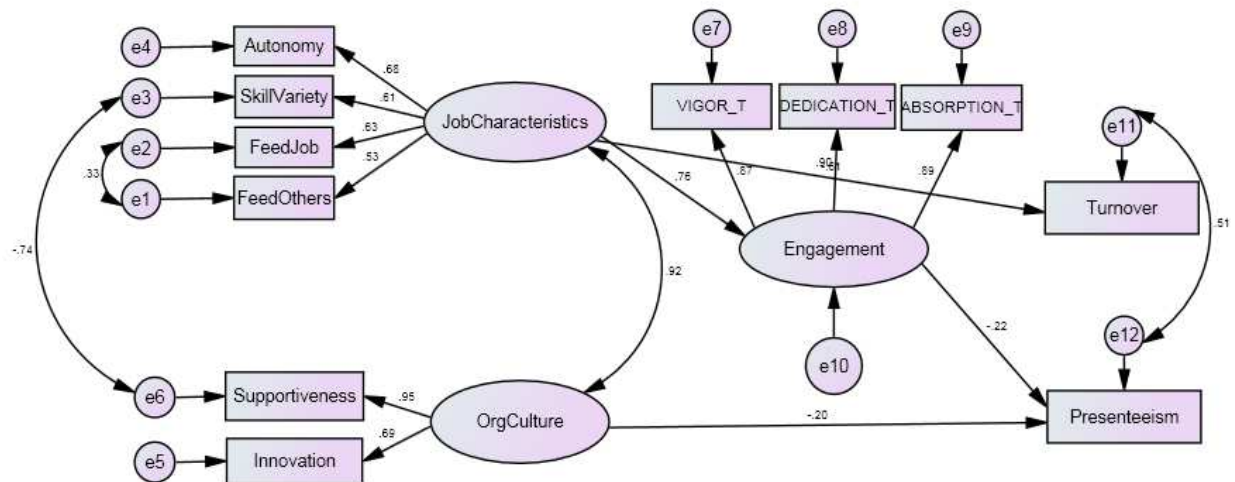


Modification indices were inspected and showed that correlating the errors associated with presenteeism and turnover would reduce χ^2 by approximately 64. For the same reasons this correlation of errors was allowed for Shirom's (2003) model, this correlation was implemented for the current model as well. Additional examination of the modification indices pointed to allowing the error terms associated with feedback from job and feedback from others to correlate to reduce χ^2 by approximately 19. Since this same correlation was also implemented in Shirom's (2003) vigor model, these error terms were allowed to correlate. Moreover, it was found that correlating the error terms of skill variety and supportiveness would decrease χ^2 by

approximately 22. Since it seems reasonable that the more a job requires different activities to be carried out as part of a job, the more likely it is that the culture would need to be a supportive one, resulting in these error terms being correlated.

When examining the standardized regression estimates, it was found that two paths, from organizational culture to work engagement and work engagement to turnover, were not significant. Since the removal of these two paths did not result in any decrease in model fit, these paths were removed from the model. The final model (see figure 11) provided an acceptable fit to the data, $\chi^2 (38, N=273) = 133.64, p < .001$, CFI = .954, IFI = .954, TLI = .933, and RMSEA = .086 (.068-.104).

Figure 11: Impact of Job Characteristics and Organizational Culture on Work Engagement, Presenteeism, and Turnover – Modified Model



Comparing the Work Engagement and Vigor Models

To address the hypotheses in this study, the work engagement and vigor modified models should be examined. However, in general this study's findings reveal that H1 which suggests that Shirom's (2003) measure of vigor would differ in terms of model fit, antecedents, and outcomes from Schaufeli et al.'s (2002) work engagement measure was supported. Examination of the

correlations shows that there is a different pattern of correlations with the various variables. The one-factor vigor measure exhibited a poor fit to the data. Even though the correlations between the work engagement's three factors and the three factors of vigor were mediocre to highly correlated, they are not overlapping constructs. Based on the CFA analyses that supported each measure's factor structure, and the SEM analyses which examined model fit with antecedents and outcome variables, it can be concluded that H1 is supported. The CFA analyses determined that both measures had an acceptable fit with the data in their three-factor format. However, when examining the SEM models, Schaufeli et al.'s (2002) work engagement fit to the hypothesized model was superior to that of Shirom's (2003) vigor measure. This was also true when observing the original unmodified models which although not meeting the standard for acceptable fit, the work engagement model exhibited better fit to the data than the vigor model. These findings strengthen the acceptance of H1, but also enhance it by implying that - the more valid employee engagement model is Schaufeli et al.'s (2002) work engagement.

When examining the specific hypotheses that focus on the particular factors that differentiate between the work engagement model and the vigor model, it can be observed that there is a difference between these two models in regards to the job characteristics antecedent. Thus, H2 (H2a-g) was supported because the four job characteristics of autonomy, feedback, task significance, and task identity, were positively related to vigor, while the three job characteristics of autonomy, feedback, and skill variety were positively related to work engagement.

As for the second antecedent of organizational culture which was hypothesized to be different between the work engagement and vigor models, it was found that for both models, the path was removed from the model. The path between the organizational culture of supportiveness and innovation and work engagement was removed from the analysis for being

non-significant. As well, the path leading from the organizational culture of supportiveness, competitiveness and performance orientation was non-significant ($\beta=.155, p=.287$), and therefore removed from the model. Further analysis was performed to determine whether supportiveness alone was positively related to vigor and it was found that although a model with supportiveness as the only organizational culture scale had a poor fit to the data ($\chi^2=439.47, df=41, p<.001$; CFI = .715, IFI = .718, TLI = .618, and RMSEA = .189 (.173-.205), the parameter estimate between supportiveness and vigor was significant ($\beta=.567, p<.001$). Thus, hypothesis H3 postulating that there is a difference between the model of work engagement and the model of vigor in terms of organizational culture was supported.

Indirect effects and their significance were assessed using AMOS 20 bootstrapping procedures as described by Shrout and Bolger (2002). The full mediation model was tested with 2000 bootstrap samples. Maximum likelihood estimation was used to estimate the direct and indirect effects. To determine the significance of this effect at the .05 level, 95% confidence intervals (CI) were used, whereby the estimates of the mediation must exclude zero (Shrout & Bolger, 2002). The hypothesized mediation analysis related to turnover intentions postulated that the difference between the work engagement model and the vigor model would be in the type of job characteristics being utilized in each model. The findings suggest that H4, proposing that work engagement would mediate the relationship between the job characteristics of autonomy, feedback, and skill variety, and turnover intentions (H4a), while vigor would mediate the relationship between the job characteristics of autonomy, feedback, job significance, and job identity, and turnover intentions, was not supported. The path between work engagement and turnover intentions was removed due to being non-significant ($\beta=.087, p=.406$), as was the path between vigor and turnover intentions which was also non-significance ($\beta=.013, p=.906$).

H5 (H5a-f) suggesting that another difference between the work engagement model and the vigor model is reflected in that the organizational culture of supportiveness, competitiveness, and performance orientation would moderate the relationship between work engagement and presenteeism, while the organizational culture of supportiveness, competitiveness, and performance orientation would instead mediate the relationship between vigor and presenteeism was not supported. The direct path between vigor and organizational culture was removed from the model because it was non-significant ($\beta = -.111, p = .260$). When performing the moderation analysis using Mplus, the interaction effect of organizational culture and work engagement was regressed on presenteeism and it was found that the interaction parameter estimate was non-significant ($B = -.018, p = .766$).

The interaction hypothesis H6, which suggested that the interaction analyses would be different between the two model such the four job characteristics of autonomy, feedback, job significance, and job identity, and the organizational culture of supportiveness would interact with each other to impact vigor to a stronger additive degree than each individually, while the three job characteristics of autonomy, feedback, and skill variety and the two forms of organizational culture of supportiveness and innovative culture would interact with each other to impact work engagement to a stronger additive degree than each individually was not supported. Using Mplus, an SEM analysis was performed to test the interaction effect of organizational culture and the hypothesized job characteristics on work engagement and it was found that the interaction parameter estimate was non-significant ($B = -.161, p = .193$). As well, the interaction variable of supportiveness and the hypothesized job characteristics that was regressed on vigor, revealed that the interaction parameter estimate was significant ($B = -.561, p < .001$). The parameter estimates presented by Mplus for the interaction are unstandardized, but these

unstandardized values are relative to a standardized latent variable. The variables used for the computation of the unstandardized parameter estimates are standardized (similar to running a regression using Z-scores) therefore; they're interpretable as standardized weights. Since the interaction effects were tested independently of the overall model, and when using Mplus to test for interaction effects, model fit is not computed, this analysis revealed that supportiveness alone was significantly related to vigor ($B=-.296, p=0.001$).

To better understand the hypotheses discussed earlier and the degree of support for each of them, Table 7 has been created.

Table 7: Hypotheses Summary

Hypothesis	Hypothesis Description	Result
H1	The measure of vigor (Shirom, 2003) will be different in terms of model fit and antecedents and outcomes paths than Schufeli's (2002) work engagement measure.	Supported
H2	Differences between the work engagement and vigor models will be reflected in the job characteristics antecedent, such that the three job characteristics of autonomy (H2a), feedback (H2b), skill variety (H2c) will be positively related to work engagement, while the four job characteristics of autonomy (H2d), feedback (H2e), job significance (H2f), job identity (H2g) will be positively related to vigor.	Supported
H3	Differences between the work engagement and vigor models will be reflected in the organizational culture antecedent, such that the organizational culture of supportiveness (H3a) and innovative culture (H3b) will be positively related to work engagement, while only the organizational culture of supportiveness (H3c) will be positively related to vigor.	Supported
H4	Differences between the work engagement and vigor models will be reflected in that work engagement will mediate the relationship between the job characteristics of autonomy, feedback, and skill variety, and turnover intentions (H4a), while vigor will mediate the relationship between the job characteristics of autonomy, feedback, job significance, and job identity, and turnover intentions (H4b).	Not Supported

H5	Differences between the work engagement and vigor models will be reflected in that the organizational culture of supportiveness (H5a), competitiveness (H5b), and performance orientation (H5c) will <i>moderate</i> the relationship between work engagement and presenteeism, while the organizational culture of supportiveness (H5d), competitiveness (H5e), and performance oriented (H5f) culture will <i>mediate</i> the relationship between vigor and presenteeism.	Not Supported
H6	Differences between the work engagement and vigor models will be reflected in that the four job characteristics of autonomy, feedback, job significance, and job identity, and the organizational culture of supportiveness will interact with each other to impact vigor to a stronger additive degree than each individually, while the three job characteristics of autonomy, feedback, and skill variety and the two forms of organizational culture of supportiveness and innovative culture will interact with each other to impact work engagement to a stronger additive degree than each individually.	Not Supported

CHAPTER IV

Discussion

“The most valuable asset of a 21st-century institution, whether business or non-business, will be its knowledge workers and their productivity” (Drucker 1999, p.135).

More than half a century ago, Peter Drucker (1959) described the "knowledge worker" as an employee whose basic means of production was the productive use of knowledge. In today's world we refer to "knowledge workers" as professionals. Productive professionals enable enterprises to cope with the rapidly changing and uncertain business environment, and thus create the necessary competitive advantage that allows the enterprise to thrive. An employee who is highly engaged has been suggested to be a high performer at work (Leiter & Bakker, 2010; Demerouti & Cropanzano, 2010; Xanthopoulou, Bakker, Heuven, Demerouti, & Schaufeli, 2008). Engaged employees are not only an asset for the organization, but also to themselves because they are more likely to have a positive experience at work. Employees who are engaged with their jobs have been found to be healthier and more committed to their jobs (Halbesleben, 2010). Thus, employee engagement is an experience that organizations would do well to cultivate for their employees. However, in the absence of a consensus among practitioners and scholars on what exactly employee engagement refers to, the implementation of an organization-wide intervention to increase employee engagement becomes almost impossible. To achieve this consensus, a battery of studies examining the various conceptualizations of employee engagement is needed in order to integrate them into one valid and comprehensive model of employee engagement.

This study set out to examine the antecedents and consequences of two employee engagement models: Schaufeli et al.'s (2002) model of work engagement and Shirom's (2003) model of vigor. Although the ultimate goal of such research is to inform future workplace

practices, to do so, it is important to first conduct theoretical examinations of the existing employee engagement frameworks. Thus, by comparing the two models of work engagement and vigor, this study by extension also examined the JD-R and the COR model frameworks.

Some of the hypotheses in this study were supported while others were not. First, the work engagement and vigor models were found to be different, although with some overlap. What this means is that Schaufeli et al.'s three-factor work engagement model was better grounded in theory than vigor. As anticipated, job characteristics were predictive of Schaufeli et al.'s (2002) work engagement and Shirom's (2003) vigor, although the particular scales of job characteristics differed between the two models. The other antecedent tested, organizational culture, revealed that a supportive and innovative culture was not related to work engagement and supportiveness was not found to relate to vigor. When examining the consequences of work engagement and vigor, it was found that they related to presenteeism frequency and to presenteeism-related employee performance, but not to turnover intentions.

All these findings have major implications since by understanding what impacts employee engagement organizations can set in place the conditions under which employees are encouraged and motivated to engage with their jobs. However, being engaged in the workplace also impacts other factors in the workplace, such as presenteeism. Employee engagement in and of itself is important for organizations, but understanding what results from having an engaged workforce provides organizations the needed incentive to invest in interventions. The finding that employees who are engaged are less likely to be presentees, suggests that productivity loss is less likely to occur. This strengthens previous findings that showed that employee engagement is closely related to increased employee performance (Bakker, 2009; Demerouti & Cropanzano, 2010). If an organization wants to increase employee performance, investing in increasing

employee engagement could do so. Since increased employee performance is the ultimate goal of most organizations, this study points to the conditions necessary to achieve this goal by way of increasing work engagement. Theoretically, work engagement is a sound concept that has its basis in the JD-R model, which presents a number of resources necessary to create a culture of engagement. Although the three-factor vigor had a good factor structure, more research is necessary in order to build a better theoretical framework that would point to the necessary conditions for a vigorous workforce.

The following sections review the major findings and highlight whether they lend support to theory and previous research. Further, limitations and strengths of the study are discussed and practical implications of this study's findings are explored. Finally, avenues of possible future research are described.

Vigor vs. Work Engagement

Confirmation of Concepts. As mentioned earlier, this study found that Schaufeli et al.'s (2002) three-factor structure of work engagement had a marginally acceptable fit to the data. This is in tandem with previous research that supported a three-factor concept of engagement comprised of vigor, dedication, and absorption (Schaufeli & Bakker, 2004; Koyuncu, Burke, & Fiksenbaum, 2006; Parker, Jimmieson & Amiot, 2009; Meyer & Gagne, 2008; Allen & Mellor, 2002; Van Heck & De Vries, 2002; Kim, Shin, & Swanger, 2009; Llorens et al., 2007; Langelaan et al., 2006; Mauno, Kinnunen, & Ruokolainen, 2007; Hakanen, Schaufeli, & Ahola, 2008). The current study found that some of the absorption items also loaded high on the dedication factor. This explains why the confirmatory factor analysis yielded only marginally acceptable fit to the data.

Although Shirom's (2003) vigor measure has been suggested to be a one-factor measure, this study found that the three-factor vigor structure had a superior fit to the data than the one-factor construct. Despite previous findings (Shirom, 2003; Wefald, 2009) that support the one-factor structure of vigor, this study's findings may indicate that vigor may be driven by three distinct but related sources of energy: physical strength, emotional energy, and cognitive liveliness. Shirom (2003) conceptualized vigor as consisting of three facets: physical strength which refers to one's physical abilities; emotional energy refers to one's capability to convey sympathy and empathy to others; and cognitive liveliness refers to one's flow of thought processes and mental agility. These three facets of vigor have their basis in the Conservation of Resources (COR) theory (Hobfoll, 1989; 2002). According to this theory, the three facets of vigor are individually possessed. Shirom (2011) argues that as COR posits that the more proximal a resource is to the self, the higher its saliency, so the three facets of vigor represent the three most salient domains of energy that humans possess, relative to other energy resources. These three energetic facets represent affective states that are intrinsically valued in their own right unlike other energetic resources such as money which is valued primarily as a means to obtain valued ends (Hobfoll, 1989; 2002). Given these three facets of vigor are represented in the COR theory as individually possessed, may be the most salient energy domains to humans, and are intrinsically valued in their own right, the findings of the present study that vigor is more likely to be a three-factor concept than a one-factor concept receives theoretical support.

In examining the construct structure of the three-factor work engagement and three-factor vigor measures, it is important to note that the vigor measure was confirmed without any need to perform modifications, while the work engagement measure required several modifications to

confirm its structure. This suggests that both the vigor and the work engagement measures still require additional research to validate their structure.

The hypotheses used to build the work engagement and vigor models were based on previous studies' results and were embedded in theory. By relying on theory and previous findings, this study's objective was to confirm each concept's theoretical framework. Schaufeli et al.'s (2002) concept has its roots in the JD-R among others, while Shirom's (2003) vigor construct draws on the COR theoretical tenets. This study found that work engagement was better grounded in theory than vigor, and given the larger number of studies conducted with work engagement, this study was able to better predict its relationships with antecedents and outcome variables. Nevertheless, this study resulted in some unexpected findings that will be discussed later. To conclude, this study supports the work engagement concept in terms of its factor structure and theory, implying that based on this study's findings, the evidence points to work engagement as the concept to use when assessing employee affects in the workplace.

Relationships with Antecedents. The main difference between Schaufeli et al.'s (2002) work engagement model and Shirom's (2003) vigor model is in the antecedents. Results of the present study suggest that the hypothesized job characteristics of autonomy, skill variety, and feedback were positively related to work engagement. This finding agrees with previous studies that found that the higher the job characteristic scales (Hackman & Oldham, 1976) of skill variety, autonomy and feedback were, the higher the engagement levels an employee felt (Bakker, et al., 2004; Macey & Schneider, 2008). The five core job characteristics are determined by three "critical psychological states": skill variety, task identity and task significance, together, contribute to 'experienced meaningfulness'; autonomy to "experienced responsibility"; and feedback to "knowledge of results" (Hackman & Oldham, 1976). There have been more than 200

studies conducted on job characteristics as determinants of attitudinal and behavioral outcomes (Ambrose & Kulik 1999). Based on these studies, Parker, Wall, and Corderly (2001) conclude that the collective effects of the core job characteristics on affective responses have been largely supported, but those for behavior (i.e., work performance, turnover and absence) are less consistent. This study supported a relationship between job characteristics and work engagement (an affect) and with turnover intentions (a behavior). The job characteristics theory's (Hackman & Oldham, 1980) underlying motivational and wellness-promoting premises propose that intrinsic job-related task resources are motivators that can enhance many positive work attitudes (Hakanen & Roodt, 2010). Unlike the job characteristics theory, the JD-R model suggests that there are more resources beyond the task-level ones that can influence work engagement. Although this study found that job characteristics have a substantial impact on work engagement, it does not deny the existence of other potential antecedents. The implication derived from this finding is that job characteristics can play a strong motivational role in how engaged the employee is, as well as on whether the employee intends to leave their job. This has major implications to the workplace since job characteristics could be a 'deal breaker' when not present, resulting in employees looking to leave the organization. On the other hand, when job characteristics are present, they elicit positive affects in the employee that increase their energetic investment in their work.

In terms of vigor, it is important to remember that within its hypothesized model, it fit marginally poorly with the data. Thus, the hypotheses associated with the vigor model should be interpreted with caution. An interpretation that addresses the hypotheses is provided, to offer a comparative picture of this model to the Schaufeli et al.'s (2002) work engagement model. Similar to previous results from a qualitative study (Shraga & Shirom, 2009), the present study

also found that the job characteristics, autonomy, task significance, task identity and feedback, were positively related to vigor. This finding lends support to Shrager and Shirom's results. This means that job characteristics act as resources which increase vigor, and by extension the employee invests physical, emotional and cognitive energetic resources in performing their job. As such, job characteristics increase the likelihood that the employee will perform at an optimal level, but on the other hand as is suggested by the negative relationship between job characteristics and turnover intentions, when job characteristics are absent, this lack can cause employees to consider leaving the organization.

To summarize, the present study found that feedback and autonomy were both predictors of vigor and work engagement. However, while skill variety was significantly related to work engagement, task significance and task identity were related to vigor. This suggests that the "meaningful experience" component of job characteristics exists in both work engagement and vigor but it differs in the focus of the meaning. Vigor's relationship to task significance and task identity places an emphasis on the meaning of the tasks, while work engagement's relationship to skill variety places the focus on the employee's skills. A take away from these findings is that to increase vigor, an organization should assess and improve the meaning and significance of the tasks involved in performing the job, while increasing work engagement should involve improving the employees' skills. Theoretically, this distinction allows us to better understand how vigorous employees and engaged employees derive meaning from their jobs.

Surprisingly, results suggested that there was no relationship between a supportive and innovative organizational culture and work engagement, and supportiveness and vigor. Previous studies found that social support from colleagues and supervisors and innovativeness at work were related to work engagement (Bakker & Demerouti, 2008; Hallbesleben & Wheeler, 2008;

Schaufeli & Salanova, 2007; Hakanen Perhoniemi, & Toppinnen-Tanner, 2008). However, the present study found no direct positive relationship between organizational culture (innovation and supportiveness) and work engagement. Moreover, this study revealed a non-significant interaction effect when examining whether the levels of job characteristics are dependent on the levels of the organizational culture to impact work engagement. This shows that job characteristics impact work engagement directly without any influence from the organizational culture. Additional variables have been suggested to affect work engagement as antecedents (Bakker & Leiter, 2010; Wefald et al., 2012); however, this study examined job characteristics and organizational culture only and therefore, just these two are presented.

Although no studies to date examined the impact of organizational culture on vigor, the present study hypothesized a relationship between vigor and a supportive organizational culture based on the tenet of the COR theory that positive relations among employees can appear to directly enhance individuals' likelihood of experiencing vigor at work (Hobfoll, 1989; 2002). The findings related to this hypothesis are mixed. When testing only supportiveness as the organizational culture variable in the vigor model, model fit was poor, thus the hypothesis that there is a relation between these two variables was not supported. When the emphasis on rewards and performance-orientation facets of culture were added to test for the hypothesized mediation relationship between vigor and presenteeism related employee performance, the model fit improved but not to a level that was acceptable. On the other hand, when the interaction analysis was tested separately from the model, it was found that supportiveness was related to vigor. Thus, although a relationship between a supportive organizational culture and vigor exists, when placing vigor in the role of mediator, this relationship ceases to exist and the supportive organizational culture instead has a direct effect on presenteeism, but not through vigor. To add

to these findings, at first, the interaction effect of job characteristics and supportiveness on vigor was found to be significant, indicating that the influence of job characteristics on vigor is dependent on a supportive culture. Since there is no analytical avenue known to the author that would plot an interaction of latent variables, scale measured variables were used to create interaction scores which were then tested. For example, autonomy x supportiveness was computed to examine the impact on physical strength, emotional energy and cognitive liveliness. The plotting of the interaction for each computed variable did not portray an interaction until the coefficients were multiplied by 4 or 5 times the standard deviation. This means that only a few participants feel that the impact of job characteristics is dependent on a supportive organizational culture to influence vigor. The model fit examining the impact of job characteristics and supportiveness on vigor, without including the outcome variables, was explored using AMOS. It was found that there was no acceptable fit to the data. Based on these findings, it can be concluded that the interaction effect of job characteristics and supportiveness on vigor is an artifact caused by the fact that the model fit poorly to the data.

To better understand the findings related to the lack of a relationship between a supportive and innovative organizational culture and work engagement, it is important to remember that the population examined in this study is that of accountants. The personal attributes and the conditions under which accountants work could lead to different levels of performance (Kalbers & Cenker, 2008). Holland's theory is based on the interaction between an employee's personality and his/her work environment - a person-environment (P-E) interaction model (Holland, 1985, 1996). This interaction is based on a classification system which categorizes vocational personality types into six groups: Realistic (R), Investigative (I), Artistic (A), Social (S), Enterprising (E), and Conventional (C). When assessed, an individual is scored

by a three-point code based on the top three categories which describe his/her occupational personality. Similarly, occupational environments are also categorized into groupings according to the job tasks and work settings. Holland (1985) predicted that vocational satisfaction, stability, and achievement would depend on the congruence between an individual's three-point personality code and his or her occupational environment.

Holland (1974) defined the accountant profession as a CES. Aranya, Barak, and Amernic (1981) also found that accountants were characterized by a combination of conventional, enterprising and social. The conventional type generally likes to follow orderly routines and meet clear standards, avoiding work that does not have clear directions. This type is described as conforming, conscientious, careful, efficient, inhibited, obedient, orderly, persistent, practical, thrifty, and unimaginative (Holland, 1974). The enterprising type generally likes to persuade or direct others more than work on scientific or complicated topics. This type is described as acquisitive, adventurous, agreeable, ambitious, attention-getting, domineering, energetic, pleasure-seeking, self-confident, and sociable. The social type generally likes to help, teach, and counsel people more than engage in mechanical or technical activity. This type is described as convincing, cooperative, friendly, generous, helpful, idealistic, kind, patient, responsible, social, sympathetic, tactful, understanding, and warm. According to Holland (1974) a consistency needs to exist between the second and third types to the first type in the person's three point code. This means that for accountants the C and E are closely placed on the hexagon which creates a consistency in the accountant's type, however, the C is farther away from S on the hexagon causing differentiation in the accountant's personality.

Based on Holland's theory, since accountants are characterized by the CES personality typology, they would also need a work environment that would primarily be conventional, then

enterprising and finally social in nature in order to perform optimally. Given this person-environment interaction, Holland's theory can provide one explanation for the findings of the present study.

However, Holland's theory is one possible explanation for this study's findings if we are to assume that all accountants have a vocation to become accountants. Reality suggests otherwise. Thus, examining the characteristics of the accounting profession may provide additional insight into the type of environment they'd prefer to work in. According to the Canadian National Occupational Classification (NOC, 2011), a general description of accountants' job duties is as follows:

Accountants perform some or all of the following duties:

- Plan, set up and administer accounting systems and prepare financial information for individuals, departments within organizations, businesses and other establishments
- Examine accounting records and prepare financial statements and reports
- Develop and maintain cost finding, reporting and internal control procedures
- Examine financial accounts and records and prepare income tax returns from accounting records
- Analyze financial statements and reports and provide financial, business and tax advice
- May supervise and train articling students, other accountants or administrative technicians.

Many of these tasks are very structured, standard, ordered and regulated. These tasks may not require a lot of innovative thinking and due to their analytic nature may also require employees to work independently in order to complete their duties. In addition to the above provided general task descriptions, traditional views of the accounting culture suggest that it is rather bureaucratic in that it is structured, ordered and regulated (Hood & Koberg, 1991; Cushing & Loebbecke, 1986). Work can be highly organized, compartmentalized and systematic, where innovation can be an aspect, as long as it remains highly structured, procedural, and power-

oriented. More recent studies characterized the organizational culture of accounting as being results-oriented, employee-oriented, professional, open system, subject to tight controls, and normative in nature (Chow, Harrison, McKinnon, & Wu, 2002).

Given these characteristics of the accounting organizational culture, their main duties, and the CES personality, it becomes clearer and clearer that an aspect of supportiveness and innovative culture may not play a leading role in the manner in which accountants perform their jobs. Therefore, these components may not be important to their engagement with their jobs. Social interactions may be occurring, but in terms of the levels of energy invested in the job, what matters most is the feedback from the job and the feedback from others related to the job, as well as skill variety and autonomy. To clarify, the findings of this study do not infer that accountants do not want to work in a supportive and innovative environment. The findings imply that accountants do not find a supportive and innovative organizational culture necessary for them to be engaged with their jobs. The lack of support for the organizational culture relationship with work engagement could indicate that occupational groups differ in the resources that increase work engagement. Organizations that want to implement programs to increase employee engagement may need to use caution when deciding which organizational culture aspects to introduce and which not. If the organization's population is occupationally diverse, then the organization may need to take in consideration that some employees will not be affected by the changes if the intervention is not comprehensive enough.

Relationships with Outcome Variables. When examining the relationship between work engagement and vigor to outcome variables, similar patterns were observed. Both work engagement and vigor had a direct relationship with presenteeism, but no relationship with turnover intentions. Presenteeism was tested in two ways: first the frequency employees attended

work sick was examined and second, the productivity associated to those days the employees attended sick was assessed. A negative relationship was found between work engagement and the number of days employees attended work sick. This suggests that employees who are engaged with their jobs are more likely to engage in healthy behaviours at work. The variable addressed as presenteeism in the models tested in this study refers to employees who attend work sick but the illness does not impact his or her performance. From this point forward, unless otherwise specified, presenteeism refers to employee performance loss due to attending work sick. A direct effect of work engagement (Schaufeli et al., 2002) on presenteeism was found but not as originally hypothesized where the anticipated positive relationship was revealed as a negative one. Initially, it was proposed that a darker side may exist in extreme cases of employee engagement because these employees would be more likely to attend work sick and as a result have the illness interfere with their performance of their job. However, the negative relationship between work engagement and presenteeism revealed in this study suggests that the higher the work engagement, the less likely it is that the employee's performance would be impacted on those days they attended work sick. In total, only 33 participants of the total 273 have not attended work sick in the past 12 months, as the remainder have attended work ill at least one day in the past 12 months, yielding support to the measure reflecting presenteeism.

The supportive and innovative organizational culture aspects were not found to moderate the relationship between work engagement and presenteeism. However, the correlation analysis between a supportive and innovative culture and the frequency of attending work sick was negative, implying that in a highly supportive and innovative culture, employees are less likely to attend work while ill. On the days employees attended work sick, highly engaged employees experienced less interference from their illness in how they performed their jobs. Overall, it can

be concluded that highly engaged employees are less likely to let an illness impact their performance at work, regardless of the organizational culture. However, in organizations characterized by low levels of supportiveness and innovativeness, employees who are attending work sick, experience productivity loss.

Vigor (Shirom, 2003) had a negative direct impact on both the frequency of employees attending work sick, as well as the performance of those employees who ended attending work. People, who are physically strong, emotionally energetic, and cognitively lively, cannot be sick since sickness induces the opposite of these effects. Organizational culture had a direct negative impact on presenteeism, suggesting that in a highly competitive, supportive, and performance oriented culture, it is likely that employees' performance is less likely to be impacted by illness. In a competitive and performance oriented culture, it is likely that an employee who is sick would invest a lot of resources in their jobs even if they are sick. As well, organizations encouraging competitive and performance oriented cultures, may view illness as a weakness that could 'lose one the competition' and reduce employee performance. Therefore, these two aspects of organizational culture would force employees to attend work sick and while at work perform at the highest level possible. The supportive aspect of organizational culture would help in employees experiencing lower productivity loss when attending work sick.

This study's results would point to the fact that, similar to the studies comparing workaholism and work engagement (Schaufeli, Taris, and Bakker, 2006; Schaufeli, Taris & Van Rehenen, 2008), this study did not find a "darker" side to work engagement or vigor. It seems that even when employees are highly immersed with their work, they are doing so in a healthy manner. There is no compulsive urge that forces them to attend work while sick even if the organizational culture may be conducive to encourage employees to do so. Moreover, employees

who attend work sick, seem to experience less productivity loss attributed to their illness. The broaden-and-build theory (Fredrickson, 1998, 2001) proposes that positive emotions such as happiness, pride, and love protect physiological health and enhance longevity (Fredrickson, 2002; Tugade, Fredrickson, & Feldman Barrett, 2004; Pressman & Cohen, 2005). Several studies found vigor to predict indicators of physical health (Shirom, Toker, Berliner, Shapira, & Melamed, 2008; Shirom, Vinoukur, & Vaananen, 2008). A complementary approach suggests that physical and mental health are personal resources that healthy employees can more readily draw from (Leiter & Maslach, 2010). Healthy employees have more energy at their disposal and greater capacity to persist in demanding situations (Rozanski & Kubzansky, 2005). Thus, it can be concluded that the relationship between presenteeism and work engagement and vigor reinforces the notion that engaged employees are often physically and mentally healthy, and even when they are ill, the job engenders enough energy in them to overcome the effects of the illness and perform at their normal capacity.

Moreover, the positive correlation between the frequency of employees attending work sick, presenteeism related to employee performance and turnover intention, suggests that employees who are considering leaving the organizations are more likely to attend work sick and when attending work sick, their performance is lower. This implies that these employees are most likely unhappy about the need to attend work sick, an unhappiness resulting in lower productivity when attending work sick and increased intentions to leave the organization. The implication of these findings to organizations is significant since organizations with disengaged employees could result in unhealthy employee behaviours, and high turnover. These outcomes could be costly to the organization in both productivity and resources.

Former research has found a relationship between work engagement and turnover intentions (Halbesleben & Schaufeli, 2006; Schaufeli & Bakker, 2004); however, the findings in this study suggest that there is no direct relationship between the two. To explain this finding, it is important to note that there is a negative mediocre relationship between the three factors of work engagement and turnover intentions (r s ranging from $-.39$ to $-.44$). This suggests that there is a relationship between the two constructs but the unique contribution to turnover intention may not be as high as this correlation implies. When other variables such as job characteristics are accounted for, the additional contribution of work engagement seems to be relatively weak. One previous study has had similar findings where other variables had a relationship with turnover intentions while work engagement did not (Halbesleben & Wheeler, 2008). Moreover, even when an association was discovered between work engagement and turnover intentions, the association tended to be the weakest among the JD-R model main processes (Schaufeli & Bakker, 2004). Turnover intentions are associated with identification levels with one's job as is the dedication factor of work engagement (Bakker & Leiter, 2010). Using a latent variable to indicate work engagement, may have influenced the lack of relationship between work engagement and turnover intentions. The fact that the absorption and vigor factors of work engagement do not include an identification aspect, and only dedication does, may have contributed to the fact that there was no relationship between the latent variable of work engagement and turnover intentions. This has some theoretical implications in that the underlying processes of work engagement need to be examined in order to determine the consequences resulting from employees experiencing engagement.

A strong negative direct effect of job characteristics on turnover intentions was also observed. This is not out of the ordinary since previous studies have found a negative

relationship between job characteristics (autonomy, skill variety, and feedback) and turnover intentions (Oldham, Kulik, Ambrose, Stepina, & Brand, 1986; Wall & Clegg, 1981). Thus, it seems that high levels of autonomy, skill variety, and feedback would decrease levels of turnover intentions. The implication of this finding supports the idea that organizations that want to decrease turnover intentions can do so through an examination of the job characteristics. Job characteristics include a high level of identification with the job, which is in line with the turnover intention variable. Job characteristics are highly influential on both work engagement and turnover intention because of their identification with the job aspect. However, since only one of the work engagement factors – dedication – is an identification based factor, it may have contributed to the lack of relationship between work engagement and turnover intentions, and the observed relationship between job characteristics and turnover intentions.

As for vigor, the path between vigor and turnover intentions was found to be non-significant. Since no previous studies examined vigor in relation to turnover intentions, this finding would be interesting to further explore in the future. Vigor lacks the identification aspect that turnover intentions possess, thus further explaining the lack of this relationship. In a recent study, Wefald, Mills, Smith, and Downey (2012) found that Shirom's (2003) measure of vigor may be a better predictor of outcomes such as job satisfaction and affective commitment than it is able to predict turnover intentions. They suggested that the effect of vigor on turnover intentions is likely mediated by job satisfaction and affective commitment. Since attempting to determine whether vigor and turnover intentions are mediated by job satisfaction is outside of the scope of this study, this option was not pursued.

Conclusion. Overall, the findings of this study indicate that the two concepts - work engagement and vigor - are closely related but are not identical. There seems to be a large

overlap between the two concepts as is evidenced by the medium to high correlations between the three factors of work engagement and the three factors of vigor (ranging from .38 - .74). The confirmatory factor analysis provided more support for the three-factor vigor measure than for the three-factor work engagement. Although both measures reached acceptable fit standards, the vigor measure did so with no need for additional modifications, and to a larger extent than the work engagement measure. When examined with their hypothesized antecedent and outcome variables, similar paths from antecedents to work engagement and vigor and from work engagement and vigor to outcome variables were observed, however, the work engagement model fit the data better than did the vigor model. This implies that the larger body of research examining work engagement provides a better understanding of the model supporting this construct, while more work is required to further understand what impacts vigor and how it impacts outcome variables. Nevertheless, the similar paths imply an overlap between the models, suggesting that the concepts are generally similar, but different in their details. This is not surprising, when examining the theories supporting these two concepts. Schaufeli et al.'s work engagement relies on the JD-R tenets (Schaufeli & Bakker, 2004), while vigor is supported by the COR tenets (Hobfoll, 1989). Both theories support the tenet that resources impact work engagement and vigor. However, these theories differ in how these resources are gained and to what extent they impact work engagement and vigor. Thus, it is safe to conclude that work engagement and vigor have proven themselves as vital concepts that differ to some extent but have underlying general antecedents and outcome variables.

Limitations and Strengths

This research has some important implications for the study of employee engagement and for the field of positive psychology. Although efforts were made to minimize limitations, a few

of them need to be mentioned. First, despite the fact that the sample of accountants creates unification around professional designation, the organizations from which these individuals work are most likely very diverse. This may be a potential confounding variable in unanticipated ways. However, since this study was interested in employees' perception of job and workplace practices, the expected magnitude of this confounding variable is expected to be minimal.

Another limitation resulting from the sample chosen is the limited generalizability of the findings. The data for this study were collected from accountant members of two professional associations in Canada. Thus, the findings of this study may not generalize to other professional groups or other cultures, and research involving other professions or geographical areas might produce different results. Therefore, reproducing this study using a different sample would be worthwhile to establish the validity and generalizability of work engagement and vigor across different contexts. On the other hand, the sample of this study provided additional insight into the impact professional designations have on work engagement, an insight which could never have been achieved in a professionally mixed sample.

The parceling of the measured variables into scale scores also has the potential of yielding a “smoke-and-mirrors” distortion of reality. However, compared with aggregate-level data, item-level data contain some disadvantages such as lower reliability, lower communality, a smaller ratio of common-to-unique factor variance, and a greater likelihood of distributional violations (Bagozzi & Heatherton, 1994; Kishton & Widaman, 1994; McCallum, Widaman, Zhang, & Hong, 1999). Nevertheless, the potential limitations of parceling need to be mentioned.

It is important to mention that the data collected in this study were not collected randomly, but participants self-selected to participate. Participants self-reported the data which may have inflated the correlations, due to common method variance, between and among the

constructs (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). A debate exists in relation to mono-method bias where some researchers argue that the best way to measure perceptual variables of how people feel about their jobs is through self-report (e.g., Howard, 1994; Schmitt, 1994; Spector, 1994), while others argue that a well-rounded methodology should include data from multiple sources to prevent potential response distortions (Frese & Zapf, 1988; Spector & Brannick, 1995). However, the extent to which mono-method variance affects research conclusions is still inconclusive. Nevertheless, the influence of same-source variance on these results cannot be completely ruled out. Therefore, future research should attempt to use a combination of sources.

Since the data were collected at one point in time, the results of this study do not imply causality, even if the structural equation modeling analysis used informs of the possible direction of the relationships among the variables. The cross-sectional nature of the present study prevents the author from drawing definitive conclusions about causal relationships among studied variables. Therefore, replicating this study by converting it into a longitudinal design could validate the findings of this study over time and provide further insights into causal relationships.

Another potential limitation can be observed in that different timeframes some of the measures examine. For example, the presenteeism questions refer to a timeframe of 12 months while questions about vigor refer to the previous 30 days. Potential confounding influences on the results need to be noted. However, the nature of the constructs being examined informed the choice of the framework. For presenteeism, it was important to provide the participant with a long enough timeframe so that the occurrence of illness can be captured. The lengthy timeframe is not expected to in any way detract from the truthfulness of the response to the questions because experiences such as attending work while sick are expected to be remembered. On the

other hand, since vigor is a positive experience, it needs to be salient to the respondents.

Therefore, the timeframe for the vigor related questions was 30 days. This allowed employees to have a short enough timeframe to remind them whether they experienced vigor at work or not.

Despite these limitations, this study provides strong support for the research of work engagement and vigor in a Canadian sample. In an academic world that has barely scratched the surface of the potential these constructs already generate in workplaces, this study opens the door to other researchers to further study employee engagement. This study provides evidence that would advance the validity of the employee engagement models and by extension the interventions that should be developed to increase employee engagement in the practice world. In a practice world that is confused by the meaning of the construct of employee engagement, this study strengthens the approach that this model includes an energetic aspect of work, generated by the nature of the job, and in turn results in positive outcomes in organizations. Moreover, the present study utilized participants who were employed individuals whose professional designation was accounting, providing a unified framework under which to examine positive affects in the workplace. Furthermore, the current study investigated the nature of engagement by comparing two most popular models of employee engagement in the same study, contributing to the future use of such engagement models in both theory and practice.

Theoretical Implications

Despite the volume of practical articles on the effects of employee engagement, a gap exists in the academic literature as to what influences employee engagement and how it influences outcome variables. This study attempted to fill this gap, by comparing two models of employee engagement, and thus enriching the academic literature with additional empirical evidence.

The present study examined the impact of employee engagement on two key work-related consequences. Thus, the findings of this study offer evidence that employee engagement is both a practically and theoretically meaningful construct deserving further research. Given that only a few antecedent variables have been revealed in the existing literature, this study's findings suggest that there may be differences between the predictors of employee engagement depending on professional designation. More specifically, this study's results imply that the organizational cultures that impact engagement may differ among professional groups. The JD-R recognizes a wide variety of resources, and also acknowledges the importance that a resource may vary across situations. This can explain why a supportive organizational culture would act as a resource for an occupation group that places great value on teamwork and group cohesion, while in an occupational group of accountants that emphasize organized, conventional work environments, it would be of less importance. The author empirically examined the significant contribution of employee engagement to employees' experiences at work. Thus, the present study builds a complex and integrative model, clarifying whether employee engagement leads to presenteeism and turnover intentions. The fact that a relationship was found between presenteeism and work engagement has theoretical implication on the notion that work engagement is associated with healthy behaviours at work. Moreover, this finding has consequences related to employee performance.

In terms of theoretical frameworks, this study used the Job Demands-Resources (JD-R) model (Schaufeli & Bakker, 2004), and thus included the notion that resources have an impact on work engagement, but their magnitude may vary from one professional group to another. The JD-R posits that job resources hold a stronger relationship with work engagement than do job demands (Christian & Slaughter, 2007; Halbelesen, 2010). The results of this study revealed that

some resources have a stronger effect on work engagement than others, and these effects may vary. The findings were consistent with prior studies using the JD-R model as a theoretical framework (Koyuncu, Burke, & Fiksenbaum, 2006; Parker, Jimmieson & Amiot, 2009; Meyer & Gagne, 2008; Allen & Mellor, 2002; Van Heck & De Vries, 2002; Kim, Shin, & Swanger, 2009; Llorens et al., 2007; Langelaan et al., 2006; Mauno, Kinnunen, & Ruokolainen, 2007; Hakanen, Schaufeli, & Ahola, 2008), clearly confirming that job characteristics were vital when attempting to improve work engagement.

The job characteristics theory's (Hackman & Oldham, 1980) underlying motivational and wellness-promoting premises propose that intrinsic job-related task resources are motivators that can enhance many positive work attitudes (Hakanen & Roodt, 2010). Unlike the job characteristics theory, the JD-R theory suggests that there are more resources beyond the task-level ones that can influence work engagement. Although this study found that job characteristics have a substantial impact on work engagement, it does not deny the existence of other potential antecedents.

Although some of the findings are not consistent with former findings, the JD-R framework allows for flexibility in the resources that increase work engagement and the outcome variables that result from it (Bakker & Leiter, 2010). In general, this study brought clarity to the concept of work engagement as this study helped to establish it as a concept with acceptable factor structure, as well as with a theoretical framework that is adaptable to the various resources used as antecedents.

Practical Implications

The popularity of the concept of employee engagement among business practitioners provides additional motivation to increase the number of studies examining this concept. Its

popularity in the practice world is also its nemesis, because the academic world is having difficulty keeping up with the speed with which this concept has been adopted by the practice world. In the gap that was created, the practice world is using this concept to refer to many other constructs (for example, job satisfaction, organizational commitment, and job involvement) that have already been validated because there is nothing else to use. This is why any research conducted to explore models of employee engagement is a step forward to embedding this concept in a valid and reliable theoretical framework.

The present study compared two leading models of employee engagement that have been examined in the academic world. Schaufeli et al.'s (2002) work engagement model appears to be better embedded in theory than Shirom's (2003) vigor model. The empirical evidence in this study provides additional credence to Schaufeli et al.'s work engagement model, thus presenting additional evidence to support the most popular conceptualization of employee engagement. Once a model of employee engagement is established, effective interventions to increase it will establish the model by understanding what impacts work engagement and what can be achieved from having an engaged workforce.

Organizations strive to compete in the current challenging economy, where often human capital provides the necessary advantage to excel and thrive. To motivate employees to perform at their highest potential, organizations should encourage employee engagement. More and more studies are finding a positive relationship between employee engagement and job performance (Bakker, 2009; Demerouti & Cropanzano, 2010). Halbesleben and Wheeler (2008) found that work engagement was instrumental in explaining variance in job performance among employees, their supervisors, and their closest coworkers. In general, engaged employees appear to have positive emotions which are likely to broaden employees' thought-action processes, indicating

that they increase their resources pool (Fredrickson, 2001; Sekerka, Vacharkulksemsuk, & Fredrickson, 2010). Engaged employees have also been found to enjoy better health, which allows them to concentrate their energy resources on work and improving their lives (Bakker, 2010). This is especially true when considering the findings related to work engagement and presenteeism related to employee performance. Accordingly, engaged employees are less likely to have their illness influence their performance at work.

Employee health and well-being has been found to be related to presenteeism (Schultz & Edington, 2007). The findings of this study that presenteeism is negatively related to work engagement implies that employees who are engaged with their jobs often engage in healthy behaviours and even when they don't, the adverse effects of their illness is less likely to impact their performance. This suggests that if an organization identifies a trend of presenteeism and unhealthy employees, one option for addressing this situation is to implement an intervention to improve engagement. Presenteeism's contribution to the work engagement literature is substantial since it fills the gap that exists between absenteeism (zero productivity) and work engagement (full capacity; Johns, 2009).

The findings, in the current study, confirm and challenge previous causal relationships between work engagement, antecedents and outcome variables. For example, as expected job characteristics were found to impact work engagement, but although previous studies have found that an organizational culture of supportiveness would increase work engagement, this was not true for the present study. This finding is attributed to the professional group used: Canadian accountants. Research examining occupational groups with regards to work engagement is scarce and therefore this study helps better understand employee engagement among the occupational group of accountants. This study, then also adds to the growing literature that

examines work engagement in Canadian samples, thus prompting other Canadian researchers to adopt this line of research. The implications for the practice world when planning an intervention to increase employee engagement would be to take into account the impact of occupational differences. An organization seeking to increase work engagement would need to first determine which resources are lacking and then implement a more focused intervention.

However, it is important to remember that although these findings further validate the model of work engagement, other studies found support for Shirom's (2003) vigor model as the superior one (Wefald et al., 2012). Therefore, an important goal of this study was to challenge one of the only studies that examined work engagement and vigor simultaneously (Wefald et al., 2012). The best research comes from having multiple perspectives which converge after rigorous examination into one point of view. Although the initial intention was to attempt to replicate Wefald and Downey's (2009) results, the results of this study ended up challenging their findings.

The findings of this study can inform work engagement interventions, as well as inform recruitment processes. Since Wefald et al. (2012) found support for individual differences in relation to work engagement, and the current study found support for a relationship between job characteristics and work engagement, it could be suggested that a person-job fit is vital when considering enhancing employee engagement. Therefore, if an organization intends to have an engaged workforce, it may be beneficial to commence the intervention at the recruitment stage, where the personality of the person and characteristics of the job are examined and matched. Moreover, if an organization identifies health related problems with their employees, investing in increasing work engagement may be a proactive venue to combat these health problems and the resulting productivity loss.

Directions for Future Research

Although the results of this study answered some questions, they also raised a few that should direct future research. Based on the results of this study and popular opinion, Schaufeli et al.'s (2002) work engagement is a more valid model of engagement than Shirom's vigor model. Therefore, more comparison studies are needed to tease out the finer details of the concept of employee engagement. More studies are also needed in examining a broader range of outcomes beyond turnover intentions and presenteeism to aid in building a stronger theoretical basis for the construct of employee engagement.

Future research could test additional models of employee engagement to determine the best one to use. Although rarely used, May et al. (2004) developed an engagement survey based on Khan's (1990, 1994) model of engagement. Another leading theorist is Britt who has developed an engagement model (1999) tested largely with military samples. Despite the scarce research surrounding May et al.'s measure and the sample constrained research conducted by Britt, both of these models could further the understanding of employee engagement.

Additional research should also examine models of employee engagement using longitudinal studies. Longitudinal studies could provide insight into the nature of work engagement over time and whether work engagement is a stable trait as its definition suggests. Likewise, although organizational culture seemed to play a minor role in increasing work engagement, it is important to examine whether organizational culture may play a role in maintaining high levels of work engagement. Testing of various organizational culture measures and components in relation to employee engagement would also provide additional support as to whether it plays a role in influencing employee engagement or not. Further analysis of different work environments is also recommended. For example, testing employee engagement in

unionized and non-unionized environments may exhibit different patterns with antecedents and outcome variables. This type of study would help tease out the conditions under which employees are engaged with their jobs.

Moreover, intervention studies that would encourage employees to be engaged with their work would benefit practice leaders as well as academic researchers. Additional research should also be conducted teasing out the tasks that encourage engagement and the task that hinder it. Employees in their day-to-day jobs have tasks which they're fully engaged in and tasks which they're less engaged in. Which tasks appeal to which employees would also be dependent on individual differences so examining which personality types are attracted to which tasks would aid in developing integrated intervention. This could start at the recruitment level and continue with matching the person to the appropriate job to increase engagement. The modified hypothesized models used to test antecedents and outcomes of work engagement could provide future direction in studying this concept and should be cross-validated with additional independent samples. Moreover, using different samples of employees from different organizations and different types of professional designations would benefit future research.

Conclusion

By comparing two models of employee engagement, this study set out to discover their usefulness. In the practice world, employee engagement has been readily adopted and to combat the confusion surrounding it, this study tested two models – work engagement (Schaufeli et al., 2002) and vigor (Shirom, 2003) – through an examination of their relationships with antecedents and outcome variables.

Findings of this study have far reaching implications. The three-factor work engagement model was found to be strongly grounded in theory, more so than the three-factor vigor model.

The differences found between the two models suggest that work engagement and vigor are different concepts and although similar in some aspects, should be distinguished when attempting to implement an intervention to increase one or the other. Since the findings of this study with regards to the vigor model were inconclusive, more research is needed in order to discover which antecedents would impact vigor. However, by confirming which job characteristics and organizational culture aspects impact work engagement, this study suggests that increasing the autonomy, skill variety, feedback, supportiveness and innovation has the potential of increasing the engagement levels of employees. This finding can inform organizations what interventions to invest in order to increase work engagement. Given that employee engagement is a central contemporary issue, the findings of this study point to an emerging model of employee engagement.

This study provides a clearer picture of how work engagement is associated with its antecedents and outcomes especially in the professional group of accounting. The differences between this study's findings and previous findings with regards to antecedents of work engagement suggest that various occupational groups may be motivated by differing resources. Hakannen and Roodt (2010) caution to take into account contextual factors when planning studies using the JD-R model. This has major implications for implementing interventions in workplaces employing various occupational groups. Presenteeism frequency and the associated productivity loss due to attending work sick were found to relate to work engagement and vigor, suggesting that engaged employees are more likely to engage in healthy behaviours, once more negating the idea that employee engagement has a darker side. Furthermore, this finding also ties work engagement with employee performance and shows a strong relationship that has an

impact even when the employee attends work sick. Work engagement seems to provide the employee the energetic resources to perform normally even when sick.

Work engagement is a more active affect, related to employee performance and thus an organization seeking to invest in a program to improve performance should consider using work engagement to assess employees' motivational and affective responses. This study illuminates future avenues for research, as well as advises organizations in choosing their interventions carefully. Careful examination of the resources which the organization plans to supply is vital since investing in resources that have little importance to the employee population could result in wasted time, money and even employee morale. Although some of this study's findings differ significantly from former studies' results, these contradictory findings provide additional insight into the nature of employee engagement in particular, and in the make-up of affects in general. Each finding in this study supports the idea that work engagement is a viable construct that has the potential to surpass other affects in its impact on workplaces. Its high arousal and pleasure levels and motivational nature make it an appropriate construct to identify employee performance shortages and inform organizational interventions. Overall, this study takes a step forward in advancing the field of positive psychology in the workplace.

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Appendix A: Recruitment Ad

My name is Neli Remo and I am in the process of completing my PhD. I need your help in order to collect my data that will serve the completion of my dissertation. I am interested in knowing your opinions and attitudes towards your job and workplace. If you are interested to help, click on the survey below and complete a questionnaire before Nov. 7, 2011. The questionnaire takes 25 minutes to complete and is completely anonymous.

In exchange for your participation, you have the option to enter your e-mail address in a draw for the possibility to win 1 of 3 - \$50 pre-paid RBC VISA GIFT CARDS.

So if you are interested, click on the link:

<https://uwindor.fluidsurveys.com/surveys/employee-engagement/>

Please use this password when prompted: employee

Thank you for all your help,

Neli Remo



Appendix B:
LETTER OF INFORMATION FOR CONSENT TO PARTICIPATE IN RESEARCH

Title of Study: Employee attitudes towards their jobs and work environment

Thank you for taking interest in our study. You are asked to participate in a research study conducted by Neli Remo and Dr. Catherine Kwantes, from the Department of Psychology at the University of Windsor. This study is Neli Remo's Dissertation Project, fulfilling a part of the requirements for the PhD Program in Applied Social Psychology.

If you have any questions or concerns about the research, please feel to contact Neli Remo (student investigator) at (519) 253-3000 ext. 2212, remo@uwindsor.ca, or Dr. Catherine Kwantes (faculty supervisor), (519) 253-3000 ext. 2242, ckwantes@uwindsor.ca.

PURPOSE OF THE STUDY

We are interested in examining employees' attitudes towards their job and workplace environment. The purpose of this study is to explore the factors that influence the working relationship between organizations and employees. We hope to accomplish this by surveying you about your perceptions of your job, your organization, and how much energy, dedication and involvement you experience while working.

PROCEDURES

If you volunteer to participate in this study, you will be asked to complete a survey questionnaire online pertaining to your attitudes towards your job and organization. Completing the questionnaire will take about 25 minutes. After completing the questionnaires, you will be provided with a short description of the study, and an opportunity to enter your e-mail address in a draw for the possibility to win 1 of 3 \$50 pre-paid credit cards. Your e-mail address and answers questions will be on completely separate data bases.

POTENTIAL RISKS AND DISCOMFORTS

Participants will be at no risk if they choose to participate in this study. However, upon completion of the survey questionnaire, you may experience some mild discomfort as you focus on potentially negative aspects of your job and work environment which may adversely impact your quality of life and well being.

POTENTIAL BENEFITS TO SUBJECTS AND/OR TO SOCIETY

This research will hopefully lead to a greater understanding of the concept of employee engagement as well as employees' relationships with their job.

COMPENSATION FOR PARTICIPATION

By participating in this study, you have the opportunity to enter a draw for the chance to win 1 of 3 – \$50 pre-paid credit cards.

CONFIDENTIALITY

Any information that is obtained in connection with this study and that can be identified with you will remain confidential and will be disclosed only with your permission. All survey responses will remain anonymous with no option of releasing any identifying information. Your responses on the questionnaire will not be associated with your name. Surveys will be stored in a password protected computer accessible only to the researchers directly involved in the study. As well, any information containing personal information, such as the e-mail address provided for the draw purposes, will be stored in a password protected data base apart from the questionnaires. If a report of this study is sent to a scientific journal, all information will be presented in a way that protects your personal confidentiality. For example, information included will reflect group information, and any identifying information will be modified or removed. Following the guidelines of the Canadian and American Psychological Associations, data will be retained for a period of 5 years after which time it will be disposed of in a secure manner.

PARTICIPATION AND WITHDRAWAL

You can choose whether to be in this study or not. If you volunteer to be in this study, you may withdraw at any time until the date Dec. 16, 2011 without consequences of any kind. Before Dec. 16, 2011, if you choose to withdraw, use the username and password you set at the beginning of the study to log into your survey and delete it from the database. After Dec. 16, 2011, you won't be able to withdraw your responses from this study. You may however, refuse to answer any questions you don't want to answer and still remain in the study. The investigator may withdraw you from this research if circumstances arise which warrant doing so. If you choose to withdraw your participation in the draw, please e-mail the researcher directly to: remo@uwindsor.ca

FEEDBACK OF THE RESULTS OF THIS STUDY TO THE SUBJECTS

Upon completion of the research, a brief report explaining the findings from this study will be made available to those interested. These reports will be available by viewing the posted summary of the results of the study on the REB Study Results website: www.uwindsor.ca/reb. The information available in this report will include only group results.

SUBSEQUENT USE OF DATA

This data will not be used in subsequent studies.

RIGHTS OF RESEARCH SUBJECTS

You may withdraw your consent at any time before the date Dec. 16, 2011 and discontinue participation without penalty. After Dec. 16, 2011, you won't be able to withdraw your responses from the study. If you have questions regarding your rights as a research subject, contact: Research Ethics Coordinator, University of Windsor, Windsor, Ontario N9B 3P4; Telephone: 519-253-3000, ext. 3948; e-mail: ethics@uwindsor.ca

SIGNATURE OF INVESTIGATOR

These are the terms under which I will conduct research.

Signature of Investigator

Date

Appendix C: Explanation of Study

You have just completed participating in a study examining the attitudes of employees towards their job and work environment. Given the new economic state of affairs following the 2007 economic crisis, companies need to find fresh and innovative ways to maintain a competitive advantage in their respective marketplaces. Insight into employees' psychological connection with their work can provide such an advantage in the resulting reality of the 21st century. Employees who are energetic and dedicated to their work can make a true difference for companies that want to create a highly efficient and productive organization (Bakker & Leiter, 2010). The results of this study have the potential enabling organizations to better understand the meaning of “employee engagement” and design better interventions that will improve employees’ experience at work. You have been asked to answer a series of questions examining your attitudes towards your job and organizational culture and your answers will help the researcher better distinguish between two conceptualizations of employee engagement.

The information you provided is greatly appreciated by the researchers. Upon completion of the research, a brief report explaining the findings from this study will be made available to those interested. These reports will be available by sending an e-mail request to the researcher to this e-mail address: remo@uwindor.ca. The information available in this report will include only group results. In addition, the results can be found in the Psychology Office.

Thank you for taking the time to participate in this study.

Neli Remo
Student Investigator
Department of Psychology
University of Windsor
Phone: (519) 253-3000 Ex. 2212

Dr. Catherine Kwantes,
Faculty Investigator
Department of Psychology
University of Windsor
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Appendix D: Work Design Questionnaire

Below are a number of job characteristics that refer to your job. Please indicate if you 1 = strongly disagree, 2=disagree, 3=neutral, 4=agree and 5 = strongly agree to indicate the extent to which you agree or disagree with that statement.

Work Scheduling Autonomy

1. The job allows me to make my own decisions about how to schedule my work
2. The job allows me to decide on the order in which things are done on the job.
3. The job allows me to plan how I do my work.

Decision-Making Autonomy

1. The job gives me a chance to use my personal initiative or judgment in carrying out the work
2. The job allows me to make a lot of decisions on my own.
3. The job provides me with significant autonomy in making decisions.

Work Methods Autonomy

1. The job allows me to make decisions about what methods I use to complete my work
2. The job gives me considerable opportunity for independence and freedom in how I do the work
3. The job allows me to decide on my own how to go about doing my work.

Skill Variety

1. The job requires a variety of skills
2. The job requires me to utilize a variety of different skills in order to complete the work.
3. The job requires me to use a number of complex or high-level skills
4. The job requires the use of a number of skills.

Task Significance

1. The results of my work are likely to significantly affect the lives of other people
2. The job itself is very significant and important in the broader scheme of things
3. The job has a large impact on people outside the organization.
4. The work performed on the job has a significant impact on people outside the organization.

Task Identity

1. The job involves completing a piece of work that has an obvious beginning and end
2. The job is arranged so that I can do an entire piece of work from beginning to end
3. The job provides me the chance to completely finish the pieces of work I begin
4. The job allows me to complete work I start

Feedback From Job

1. The work activities themselves provide direct and clear information about the effectiveness (e.g., quality and quantity) of my job performance
2. The job itself provides feedback on my performance.
3. The job itself provides me with information about my performance.

Feedback From Others

1. I receive a great deal of information from my manager and coworkers about my job performance
2. Other people in the organization, such as managers and coworkers, provide information about the effectiveness (e.g., quality and quantity) of my job performance
3. I receive feedback on my performance from other people in my organization (such as my manager or coworkers).

Appendix E: Organizational Culture Profile Survey Instrument

Please rate the following statements by ranking them from 1 = Strongly Disagree to 5 Strongly Agree.

Statements	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1. The organization values stability	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. The organization is innovative	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. The organization is quick to take advantage of opportunities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. The organization is reflective	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. The organization is risk taking	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. The organization is team oriented	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7. The organization shares information freely	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8. The organization is people oriented	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9. The organization is fair	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10. The organization has a calm environment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
11. The organization encourages individual responsibility	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12. The organization encourages collaborative interactions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
13. The organization is an enthusiastic place to work	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
14. The organization places an emphasis on quality	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
15. The organization praises employees for good performance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
16. The organization encourages a low level of conflict	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
17. The organization works toward continuity and security of its operations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
18. The organization gives high pay for performance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
19. Professional growth of employees is important to the organization	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
20. The organization is achievement oriented	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
21. The organization is socially responsible	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
22. The organization has high expectations for performance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
23. Having a good reputation is important to the organization	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
24. The organization is results oriented	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
25. The organization has a clear guiding philosophy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
26. The organization is competitive	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
27. The organization is highly organized	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
28. The organization is distinctive-different than others	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Appendix F: Utrecht Work Engagement Scale

The following statements are about how you feel at work. Please read each statement carefully and decide if you ever feel this way about your job. If you have never had this feeling, choose the "never" statement. If you have had this feeling, indicate how often you felt it by choosing the statement that best describes how frequently you feel that way.

- 1 – Never
- 2 – Almost Never
- 3 – Rarely
- 4 – Sometimes
- 5 – Often
- 6 – Very Often
- 7 – Always

- 1. At my work, I feel bursting with energy.
- 2. I find the work that I do full of meaning and purpose.
- 3. Time flies when I'm working.
- 4. At my job, I feel strong and vigorous.
- 5. I am enthusiastic about my job.
- 6. When I am working, I forget everything else around me.
- 7. My job inspires me.
- 8. When I get up in the morning, I feel like going to work.
- 9. I feel happy when I am working intensely.
- 10. I am proud of the work that I do.
- 11. I am immersed in my work.
- 12. I can continue working for very long periods at a time.
- 13. To me, my job is challenging.
- 14. I get carried away when I'm working.
- 15. At my job, I am very resilient, mentally.
- 16. It is difficult to detach myself from my job.
- 17. At my work, I always persevere, even when things do not go well.

Appendix G: Shirom-Melamed Vigor Measure (SMVM)

How Do You Feel at Work?

Below are a number of statements that describe different feelings that you may feel at work.

Please indicate how often, in the past 30 workdays, you have felt each of the following feelings:

	How often have you felt this way at work?						
	Never or almost never	Very infrequently	Quite infrequently	Sometimes	Quite frequently	Very frequently	Always or almost always
1. I feel full of pep	1	2	3	4	5	6	7
2. I feel I have physical strength	1	2	3	4	5	6	7
3. Feeling vigorous	1	2	3	4	5	6	7
4. I feel energetic	1	2	3	4	5	6	7
5. Feeling of vitality	1	2	3	4	5	6	7
6. I feel I can think rapidly	1	2	3	4	5	6	7
7. I feel I am able to contribute new ideas	1	2	3	4	5	6	7
8. I feel able to be creative	1	2	3	4	5	6	7
9. I feel able to show warmth to others	1	2	3	4	5	6	7
10. I feel Able to be sensitive to the needs of coworkers and customers	1	2	3	4	5	6	7
11. I feel I am capable of investing emotionally in coworkers and customers	1	2	3	4	5	6	7
12. I feel capable of being sympathetic to co-workers and customers	1	2	3	4	5	6	7

Appendix H: Stanford Presenteeism Scale

Stanford Presenteeism Scale (SPS-6): Health Status and Employee Productivity

Directions: Below we would like you to describe your work experiences in the past 12 months. These experiences may be affected by many environmental as well as personal factors and may change from time to time. For each of the following statement, please circle one of the following responses to show your agreement or disagreement with this statement in describing your work experiences in the past 12 months. Health condition refers to *any* health condition you experienced in the past year that affected your work.

Please use the following scale:
Circle:

1. If you strongly disagree with the statement
2. If you somewhat disagree with the statement
3. If you are uncertain about your agreement with the statement
4. If you somewhat agree with the statement
5. If you strongly agree with the statement

Health condition refers to *any* health condition you experienced in the past year that affected your work.

1. Because of my health condition, the stresses of my job were much harder to handle.
2. Despite having my health condition, I was able to finish hard tasks in my work.
3. My health condition distracted me from taking pleasure in my work.
4. I felt hopeless about finishing certain work tasks, due to my health condition
5. At work, I was able to focus on achieving my goals despite my health condition.
6. Despite having my health condition, I felt energetic enough to complete all my work.

Note: The word “back pain,” “cardiovascular problem,” “illness,” “stomach problem,” or other similar descriptions can be substituted for the words “health problem” in any of these items. The timeline of a “month” can be extended to 3, 6 or 12 months.

Additional Question:

Please think back to the past 12 months, how often have you attended work while being sick (any health condition)?

Appendix I: Turnover Cognition

Please rate each statement to indicate the extent to which you strongly agree (5) or strongly disagree (1) with it.

1 – Strongly Disagree

2 – Disagree

3 – Neutral

4 – Agree

5 – Strongly Agree

1. I will probably look for a new job in the near future
2. At the present time, I am actively searching for another job in a different organization
3. I do not intend to quit my job
4. It is unlikely that I will actively look for a different organization to work for in the next year
5. I am not thinking about quitting my job at the present time

Appendix J: Demographics Questionnaire

Following are questions asking for demographic information. Either circle the correct answer or write it in the allocated space:

1. Age
2. Gender: Male Female
3. What is your highest level of education?
 - a. Elementary School Education
 - b. High School Diploma
 - c. Bachelor's Degree or College Diploma
 - d. Master's Degree
 - e. Doctoral Degree (e.g., Ph.D., M.D., J.D.)
4. What is your salary range?
 - a. (14,999 and below)
 - b. (15,000 – 44,999)
 - c. (45,000-74,999)
 - d. (75,000-104,999)
 - e. (105,000-134,999)
 - f. (135,000 and above)
5. Do you work:
 - a. Solely from home
 - b. Solely in the office
 - c. Part of the time in the office and part of the time at home
6. Are you:
 - a. Full time employee
 - b. Part-time employee
 - c. Contract

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